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A Research Portfolio:

Psychological factors and psychological treatment for Cluster C Personality Disorders

By Victoria Honeyman

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CONTENTS

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WORD COUNT: 21,395 (excluding references and appendices)

1. ABSTRACT:

Background: There is a paucity of research into Cluster C personality disorders, however there is increasing recognition that they are highly prevalent, associated with significant distress and frequently present alongside co-occurring axis I disorders. Research has led to significant progress in the understanding of the psychological mechanisms and has guided the development of evidence based treatment for borderline personality disorder and therefore it is likely that increased focus on Cluster C personality disorders may lead to similar developments. This thesis aimed to examine and evaluate current research on psychological interventions for the treatment of Cluster C personality disorders. It also sought to explore psychological factors involved in the development and maintenance of cluster C personality disorder.

Method: A systematic literature review examining the effectiveness of psychological treatments for cluster C personality disorder identified 16 studies. The empirical study recruited individuals identified by clinicians as meeting criteria for Cluster C personality disorders. Participants completed a range of self-report measures of personality psychopathology, interpersonal problems and axis I disorders and a series of interviews exploring adult attachment style, reflective function, autobiographical memories. These were completed at 2 time points, 4 months apart. Participants also provided responses to a semi-structured qualitative interview to gain insight into their beliefs about their difficulties. Additional information was also gained through participants' psychiatric notes.

Results: The systematic review results indicate that psychological interventions are effective in the treatment of cluster C personality disorders however studies

generally focused on cognitive behavioural or psychodynamic approaches. There is a lack of clarity over which treatment components are most effective in treating particular features of cluster C personality disorders. The empirical paper identifies no significant changes in personality psychopathology, anxiety and depressive symptoms, interpersonal problems, reflective function and autobiographical memory across time. Participants demonstrated insecure adult attachment styles.

Conclusions: Results from the systematic review and empirical study identify a need for more research to explore the complexity of personality psychopathology and co-occurring axis I and axis II disorders. It is also necessary for research to identify psychological factors involved in the development and maintenance of Cluster C personality disorders in order to guide evidence based treatments. The systematic review highlights the need for research to identify the most effective psychological treatments for cluster C personality disorders and to establish which components of treatment are most effective in targeting particular symptoms associated with cluster C personality disorder.

2. SYSTEMATIC REVIEW

2.1 TITLE PAGE

Title: A systematic review exploring the effectiveness of psychological treatments for cluster C personality disorders.

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The thesis is formatted according to University of Edinburgh Thesis Regulatory Standards however formatting will be adjusted to meet journal requirements before submission to the journal. In the journal format the paper is within the required page length.

Tables remain in text for the purpose of the portfolio thesis format according to the University of Edinburgh Handbook of Clinical Psychology but will be removed before submission to journal.

Titles are numbered for thesis submission but will be removed for submission to journal.

2.2 ABSTRACT

This review sought to identify, summarise and critically evaluate studies that investigated the effectiveness of psychological interventions in the treatment of Cluster C Personality Disorders. The following databases were searched; PsychINFO < 1980 to August 2014; EMBASE < 1980 to August 2014; Ovid MEDLINE < 1980 to August 2014; CINAHL < 1980 to August 2014; and Google Scholar < 1980 to August 2014. 16 studies met criteria and consisted of 1399 participants, with a mean age of 36 years (range of 18-70 years), of whom 57.5% were female. Studies described high rates of co-occurring axis I and axis II disorders. A wide range of both self-report and interview outcome measures were utilised within studies to measure changes in diagnosis and symptom severity. The majority of studies described improvements in relation to symptoms, functioning and personality pathology with all studies reporting significant improvements following psychological therapies with evidence for cognitive-behavioural and psychodynamic approaches. However there was evidence that despite improvements, individuals still remained below normative levels of functioning. Future research is required to develop greater understanding of the psychological mechanisms involved in the development and maintenance of Cluster C Personality Disorders and to develop tailored evidence based treatments for this population.

KEYWORDS

Cluster C Personality Disorder, Avoidant Personality Disorder, Obsessive-Compulsive Personality Disorder, Dependent Personality Disorder, Psychological Treatment, Psychotherapy, Psychological Interventions, Treatment Effectiveness, Effectiveness

HIGHLIGHTS

- Cluster C Personality Disorders are highly co-morbid with other axis I and axis II disorders
- There is emerging evidence for the effectiveness of cognitive-behavioural and psychodynamic approaches in the treatment of Cluster C Personality Disorders
- Future research is required to identify psychological mechanisms involved in the development and maintenance of Cluster C Personality Disorders
- Future research is required to develop tailored psychological interventions for Cluster C Personality Disorder

2.3 INTRODUCTION

In recent years, there has been increasing interest into the effectiveness of psychotherapy for treatment of personality disorders (Bateman & Fonagy, 2000; Budge et al., 2013; McMain & Pos, 2007). Personality disorders are described as pervasive and enduring and are characterised by rigid, self-destructive patterns in affect, cognitions and interpersonal relationships, which negatively impact on psychological well-being (DSM-IV; American Psychiatric Association, 2000; Perry, Banon & Ianni, 1999). Although now superseded by DSM-V, the DSM-IV classification system identified 3 clusters of personality disorders, including; cluster A (paranoid, schizoid, schizotypal), cluster B (antisocial, borderline, histrionic, narcissistic and cluster C (avoidant, dependent, obsessive-compulsive) (appendix B). Avoidant Personality Disorder (AVPD) is characterised by pervasive feelings of social inhibition and inadequacy. Dependent Personality Disorder is characterised by a pervasive psychological need to be cared for and Obsessive Compulsive Personality Disorder is characterised by rigid conformity to rules and control to the exclusion of leisure pursuits and friendships (DSM-IV; APA, 2000). These are broadly similar in ICD-10 (World Health Organisation, 1992). Despite recognition that personality disorders are highly prevalent, more enduring than other mental health diagnoses, cause high levels of distress and result in high healthcare costs there is still uncertainty about the most effective interventions (Budge et al, 2013; Duggan, Huband, Smailagic, Ferriter, & Adams, 2007; McMain & Pos, 2007).

Research in Cluster B disorders, particularly Borderline Personality Disorder (BPD) has identified key psychological factors involved in the development and

maintenance of difficulties and has contributed to the development of evidence-based treatments for BPD (Fonagy & Bateman, 2006), however there has been a relative paucity of research into other Personality Disorders. For example, Cluster C personality disorders are likely to be highly prevalent, associated with significant distress and have high rates of co-morbidity with axis I and other axis II disorders and therefore merit similar investigation that has been given to BPD (Budge et al., 2013; Duggan et al., 2007; McMain and Pos, 2007). There is conflicting evidence with some researchers suggesting Cluster C PDs are the most treatable, generally less impaired and result in fewer treatment drop outs than other PDs (Perry et al., 1999) while others identified that clients with cluster C tended to respond particularly slowly to treatment and even after effective treatment still function below normative levels (Dimaggio, 2013; Shea et al., 2002). Narud, Mykletun and Dahl (2005) reported that cluster A and B diagnoses improved in general functioning and personality pathology, whereas cluster C PDs improved in general functioning only. This may suggest that more focused treatment is required for cluster C or that cluster C characteristics are more resistant to change.

A number of systematic reviews and meta-analyses examine the effectiveness of psychological treatments for personality disorders (Bateman & Fonagy, 2000; Budge et al., 2013; Duggan et al., 2007; Leichsenring & Leibing, 2003; McMurran, Hubard & Overton, 2010; Perry et al., 1999; Verheul & Herbrink, 2007). There has been considerable support for psychotherapy (Perry et al., 1999) and in particular for cognitive behavioural and psychodynamic approaches in the treatment of personality disorders (McMain & Pos, 2007; Verheul & Herbrink, 2007). However there are few

reviews that focus specifically on cluster C. These reviews have applied heterogeneous criteria for defining Cluster C PD, have limited studies, and report contradictory findings (Diedrich & Voderholzer, 2015; Disney, 2013; Simon 2009). Furthermore treatment interventions have been tailored for specific PDs however little detail is given on what this entails (Simon, 2009). Research suggests that treatment efficacy is improved by selecting a coherent and comprehensive theoretical frame and applying it consistently however no evidence was found for one theoretical orientation as being superior to another (Verheul & Herbrink, 2007).

In general, Systematic reviews within personality disorder research face a number of challenges. Methodological issues include; case identification, comorbidity, randomization, specificity of treatment, variability of outcome measures and studies failing to provide sufficient details for researchers to abstract data are just some of the challenges facing systematic reviews on PD (Bateman & Fonagy, 2000; Budge et al., 2013). Significant heterogeneity has been found within RCTs, systematic reviews and meta-analyses for personality disorder with variations in diagnoses, severity of illness, design, treatment modality and duration, outcome measures assessment methods (Duggan et al., 2007; Leichsenring & Leibing, 2003; McMain & Pos, 2007; Perry et al., 1999). The current review sought to reduce heterogeneity by focusing exclusively on studies where Cluster C PDs were the primary focus. This ensures that studies specifically examine the effectiveness of psychological treatment for cluster C PD and enables a clearer estimate of the effectiveness of these treatments.

Aims of the Study

This review sought to identify, summarise and critically evaluate research articles that have investigated the effectiveness of psychological treatments for cluster C personality disorders.

Research Questions:

- What are the characteristics of studies that have examined psychological treatments for Cluster C personality disorders?
- Which psychological treatments have been trialled for cluster C personality disorders?
- What measures have been used to evaluate effectiveness of treatment and symptom change in treatment of Cluster C personality disorders?
- What outcome measures are used to examine symptom change in studies examining psychological treatments for Cluster C personality disorders.
- What is the evidence for the effectiveness of different psychological treatment approaches applied to Cluster C personality disorders?

2.4 METHOD

Inclusion and exclusion criteria (appendix D)

Studies were included according to the following criteria:

- Reported outcomes for participants with a primary diagnosis of cluster C PD (avoidant personality disorder, dependent personality disorder, obsessive-compulsive personality disorder),
- reported outcomes for a clearly described, specific psychological treatment for participants with cluster C PD,
- participants were adults aged 18 – 64 years,
- studies were published between 1980 and August 2014
- published in English.

Exclusion criteria were as follows:

- non-clinical/analogue studies
- qualitative data
- single case studies
- conference abstracts
- unpublished studies
- those without an outcome measure,
- studies examining a combination of personality disorders where there was a greater proportion of cluster B over Cluster C PDs,
- studies where cluster C personality disorder was not the primary focus
- Following Bateman & Fonagy (2000), studies which focused on the impact of axis II disorders on treatment outcomes for axis I disorders.

Outcomes

Outcomes included diagnosis and severity of personality disorder pathology, presence and severity of axis I psychopathology, psychosocial functioning, therapeutic alliance and analysis of treatment approaches used and their effectiveness.

Search Strategy

A systematic review was carried out by searching computerized databases for relevant articles investigating the effectiveness of psychological treatments for cluster C personality disorders. The following computerised databases searched were PsychINFO < 1980 to August 2014; EMBASE < 1980 to August 2014; Ovid MEDLINE < 1980 to August 2014; CINAHL < 1980 to August 2014; and Google Scholar < 1980 to August 2014.The search used the subject headings (avoidant personality disorder) or (dependent personality disorder) or (compulsive personality disorder) or (obsessive-compulsive personality disorder) or (cluster C personality disorder) or (anankastic personality disorder) combined with (psychotherapy) or (cognitive therapy) or (psychodynamic psychotherapy) or (psychological treatment) or (psychological intervention) combined with (treatment outcome) or (treatment efficacy) or (treatment effectiveness). Detailed information on search terms can be found in appendix C. Duplicate articles were removed. Online titles and abstracts were reviewed and articles that did not meet the inclusion and exclusion criteria were

discarded and full text were obtained for articles that were potentially eligible. Further searches were carried out for the Journal of Personality Disorders and references for eligible articles to identify any relevant articles that may have been missed by the electronic database search strategy. The author reviewed all articles against the inclusion and exclusion criteria. In addition, 50% of the included and 50% of the excluded articles were reviewed by an independent reviewer. Inter-rater reliability was calculated using Cohen's Kappa = 0.843 ($p<0.001$), 95% CI (0.63, 1.05) demonstrating 'almost perfect' agreement (Landis & Koch, 1977). An independent expert in the field was consulted to ensure no relevant papers had been overlooked.

Quality Criteria

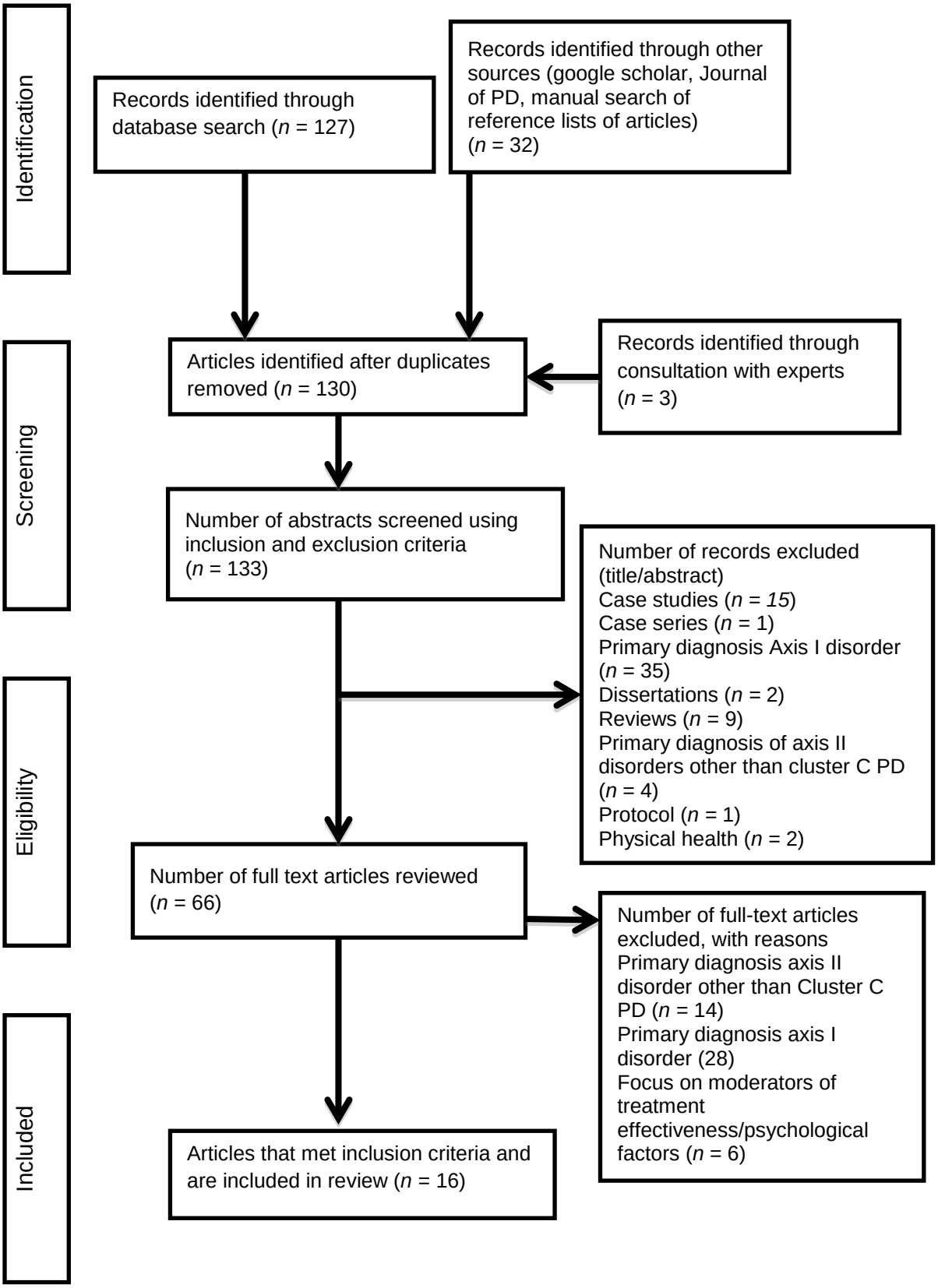
All selected articles were evaluated for study quality and risk of bias using an adapted data extraction sheet (appendix E) based on the CONSORT checklist (Moher, Schulz & Altman, 2001), Cochrane Consumer and Communication Review Group data extraction template (2011) and SIGN Guideline 50 (2014). The quality criteria ratings for included studies are summarized in appendix F. All articles meeting inclusion criteria were rated by the primary researcher and 50% were reviewed by an additional independent reviewer. Disagreements were resolved through discussion between the two reviewers and consultation with a third reviewer. Inter-rater reliability was calculated using Cohen's Kappa = 0.61 ($p<001$), 95% CI (0.27, 0.95) demonstrating 'substantial agreement'.

2.5 RESULTS

Literature search

The search and exclusion process is illustrated in Fig. 1. 133 papers were identified through the searches. Of these, 117 were excluded according to the inclusion and exclusion criteria. Reasons for exclusion included; case studies (n = 15), case series (n = 1), dissertations (n = 2), systematic reviews or meta-analyses (n = 9), protocol (n = 1), physical health (n = 2), primary diagnosis axis I disorder (n = 63) and primary diagnosis axis II disorder other than Cluster C PD (n = 18). 6 papers were excluded as they focused on moderators of treatment effectiveness. Finally, 16 papers met inclusion criteria for the review.

Fig 1. PRISMA Flowchart of the article selection process



Included studies

There were 16 studies that met the inclusion criteria for this review: Alden (1989); Bamelis, Evers, Spinhoven and Arntz (2014); Barber, Morse, Krakauer, Chittams and Crits-Cristoph (1997); Bartak et al. (2010); Eikenaes, Gude and Hoffart (2006); Emmelkamp et al. (2006); Gude and Hoffart (2008); Hellerstein et al. (2005); Muran, Safran, Waller Samstag and Winston (2005); Ng (2005); Popa, Nirestean, Ardelean, Buicu and Ile (2013); Renneberg, Goldstein, Phillips and Chambless (1990); Strauss et al. (2006); Stravynski, Belisle, Marcouiller, Lavalle and Elie (1994); Svartberg, Stiles and Seltzer (2004) and Winston et al. (1994) .

Demographics

Demographics are illustrated in table 1. The 16 studies reported outcomes for 1399 participants. Mean age of participants was 36 years (range 18-70 years). 39.7% of participants were male (n = 555) and 57.5% were female (n = 804), with no data on gender for 40 participants (all from Strauss et al., 2006). Ethnicity was indicated in 6 studies (Alden, 1989; Hellerstein et al., 2005; Muran et al., 2005; Ng, 2005; Strauss et al., 2006; Svartberg et al., 2004) with 89% (n=314) participants described as White/ Caucasian. Marital status was identified in 12 studies (Alden, 1989; Bartak et al., 2010; Emmelkamp et al., 2006; Gude & Hoffart, 2008; Hellerstein et al., 2005; Muran et al., 2005; Ng, 2005; Renneberg et al., 1990; Strauss et al., 2006; Stravynski et al., 1994; Svartberg et al., 2004; Winston et al., 1994), with 63% (n=598) participants reported as single, divorced, never married or widowed; whilst the

remainder were married/cohabiting. Education levels (Bartak et al., 2010; Emmelkamp et al., 2006; Hellerstein et al., 2005; Muran et al., 2005; Ng, 2005; Strauss et al., 2006; Svartberg et al., 2004; Winston et al., 1994; Bamelis et al., 2014) were reported in 9 studies, with 25.7% (n=285) participants having less than college level education, and 74.3% (n=826) reporting education to college level or beyond. Only 6 studies provided information on employment status (Alden, 1989; Eikenaes et al., 2006; Hellerstein et al., 2005; Muran et al., 2005; Ng, 2005; Bamelis et al., 2014), of which 63.7% (n=405) were employed or studying. The remaining 36.3% (n=231) were unemployed, housewives, retired or receiving disability/welfare. Inclusion and exclusion criteria were provided for all 16 studies. 6 studies were carried out in the USA (Barber et al., 1997; Hellerstein et al., 2005; Muran et al., 2005; Renneberg et al., 1990; Strauss et al., 2006; Winston et al., 1994). The remaining studies were conducted in Canada (Alden, 1989; Stravynski et al., 1994), Netherlands (Bartak et al., 2010; Emmelkamp et al., 2006; Bamelis et al., 2014), Norway (Eikenaes et al., 2006; Gude & Hoffart, 2008), China (Ng, 2005), Romania (Popa et al., 2013) and one study did not provide details of the location (Svartberg et al., 2004).

In 7 studies psychotropic medication was either an exclusion criteria or not part of treatment (Alden, 1989; Eikenaes et al., 2006; Emmelkamp et al., 2006; Hellerstein et al., 2005; Muran et al., 2005; Stravynski et al., 1994; Svartberg et al., 2004). Medication was identified as part of routine treatment in 5 studies (Bamelis et al., 2014; Bartak et al., 2010; Gude & Hoffart, 2008; Ng, 2005; Popa et al., 2013;

Renneberg et al., 1990; Svartberg et al., 2004) and 2 studies failed to indicate medication status (Barber et al., 1997; Strauss et al., 2006).

Primary diagnosis:

5 studies primarily focused solely on Avoidant Personality Disorder (AVPD) as the primary diagnosis (Alden, 1989; Eikenaes et al., 2006; Emmelkamp et al., 2006; Renneberg et al., 1990; Stravynski et al., 1994), 1 focused on Obsessive-Compulsive Personality Disorder (OCPD) (Ng, 2005), and 2 on both AVPD and OCPD (Barber et al., 1997; Strauss et al., 2006). 5 studies focused on Cluster C Personality Disorder (PD) in general with details of number of AVPD, OCPD, DPD (Bamelis et al., 2014; Bartak et al., 2010; Hellerstein et al., 2005; Muran et al., 2005; Svartberg et al., 2004) and 1 study generally identified cluster C without specifying types of Cluster C PD (Winston et al., 1994). 3 studies examined PD NOS in addition to Cluster C PDs (Hellerstein et al., 2005; Muran et al., 2005; Winston et al., 1994). 1 study examined OCPD and comorbid generalized anxiety disorder (GAD) (Popa et al., 2013). Winston et al. (1994) identified that they were examining PDs however excluded paranoid, schizoid, schizotypal, narcissistic and BPD in their exclusion criteria. 1 study examined patients with cluster C co-ocurring with panic disorder with agoraphobia (Gude & Hoffart, 2008). Bamelis et al. (2014) examined predominantly Cluster C PDs however did include a small sample of paranoid, narcissistic and histrionic within their inclusion criteria.

Secondary diagnoses

A wide range of co-ocurring axis I disorders were identified from 12 studies (Bamelis et al., 2014; Barber et al., 1997; Eikenaes et al., 2006; Gude & Hoffart, 2008; Hellerstein et al., 2005; Muran et al., 2005; Ng, 2005; Renneberg et al., 1990; Strauss et al., 2006; Stravynski et al., 1994; Svartberg et al., 2004; Winston et al., 1994). The most frequent co-occuring Axis I diagnoses were mood and anxiety disorders (n = 445 depression, dysthymia or cyclothymia; n = 443 anxiety disorder). Further diagnoses included substance abuse (n=42), adjustment disorder (n=10), somatisation disorder (n=36), psychosexual dysfunction (n=2) and eating disorders (n=12). Co-occurring axis II disorders were identified in 8 studies (Bamelis et al., 2014; Eikenaes et al., 2006; Hellerstein et al., 2005; Ng, 2005; Renneberg et al., 1990; Strauss et al., 2006; Svartberg et al., 2004; Winston et al., 1994). Based on 4 studies (Eikenaes et al., 2006; Hellerstein et al., 2005; Ng, 2005; Renneberg et al., 1990) the mean number of PD diagnoses was 2.7.

Strauss et al. (2006) identified that 11 of their participants met criteria for both AVPD and OCPD. Svartberg, Stiles and Seltzer (2004) noted 11 participants met criteria for more than one PD. Finally, Winston et al. (1994) identified that 3 participants met criteria for cluster A, 18 for Cluster B, 3 had features consistent with cluster A PD and 4 had features consistent with cluster B. Bamelis et al. (2014) identified secondary diagnoses of AVPD, DPD, OCPD, paranoid, histrionic, narcissistic, passive aggressive and depressive PDs.

Table 1. Summary of study demographics

Study	Location	Participants (n=)	Primary Diagnosis	Secondary Diagnoses	Mean age (range)	Gender m/f	Ethnicity	Marital Status	Education	Employment	Medication
Alden (1989)	Canada	76	AVPD	NI	27.5 (20-40)	42/34	68 white, 8 Chinese	76 (100%) unmarried	NI	66 employed, 6 students, 4 unemployed	No
Bamelis et al. (2014)	12 Dutch Mental Health Institutes	320	Cluster C, PPD, HPD, NPD AVPD (n=163) DPD (n=36) OCPD (n=89) PPD (n=14) HPD (n=2) NPD (n=16)	Secondary PD diagnosis (none, APVD, OCPD, DPD, NPD, PPD, HPD, PAPD, DPPD). Axis I disorders (current) anxiety disorders, depressive disorders, SD, ED, other axis I disorder	38.3 (18-65)	139/181	NI	NI	Primary school (n=12), Lower vocational (n=25), lower secondary (n=33), higher secondary (n=28), intermediate vocational (n=106), Pre-university (n=23), higher vocational (n=66), academic (n=27) (intermediate vocational and above considered ≥	Housewife (n=13), Student (n=16), Employed (n=145), Disability (n=110), Welfare (n=35), Retired (n=1)	Medication monitored

									college		
Barber et al. (1997)	USA	38	AVPD & OCPD	71% depressive disorder, 63% anxiety disorder	37 (20-65)	19/19	NI	NI	NI	NI	NI
Bartak et al. (2010)	Netherlands	371	66% pure Cluster C, 23.7% cluster C & B, 4% Cluster C & A, 5.7% Cluster C, A, B . 63.3% AVPD, 49.3% OCPD, 22.6% DPD	NI	33.5 (18-70)	110/261	NI	261 (70.4%) unmarried, 79 (21.3%) married, 31 (8.4%) divorced/ widowed	Low 22.9%, medium 19.4%, high 57.7%	NI	part of routine clinical treatment
Eikenaes et al. (2006)	Norway	53	AVPD	MDD, DD, SP, SA	36.5 (NI)	19/34	NI	30 (57%) single, 23 (43%) married/co-habiting	NI	21 in work/studies	No

Emmelkamp et al. (2006)	Netherlands	62	AVPD	NI	34.3 (24-61)	30/32	NI	NI	Elementary 14%, Medium 24%, above average 36%, high 26%	NI	No
Gude & Hoffart (2008)	Norway	42	AVPD, OCPD, DPD and diagnosis of panic disorder with agoraphobia	Depression, SA	40 (NI)	13/29	NI	13 (31%) unmarried, 29 (69%) married	NI	NI	TAU (n=4), CT (n=18) taking medication
Hellerstein et al. (1998)	USA	49	Cluster C total (n=20), AVPD (n=7), DPD (n=2), OCPD (n=6), SDPD (n=4), PAPD (n-1), PD NOS (n=18)	Depression, anxiety disorders, AD, Clusters A and B PDs (n=11)	41.3 (18-60)	22/27	45 white	35 (71%) single/divorced/ widowed, 14 (29%) married	<less than college 15, ≥ college 34	39 employed	No

Muran et al. (2005)	USA	128	Cluster C PD: AVPD (22%), OCPD (10%), DPD (2%), or PD NOS (66%), multiple axis II diagnoses (19%)	Mood disorders (55%), anxiety disorders (28%), AD (4%), multiple axis I (35%)	41.3 (21-65)	60/68	115 white, 1 black, 6 latino, 5 other	64 (50%) single, 36 (28%) married/re married, 27 (21%) divorced, 1 (1%) widowed	High school graduate 24, college graduate 64, graduate degree 40	104 (81%) employed	No
Ng (2005)	China	10	OCPD (100%)	Depressive disorders (n=10), GAD (n=5), PND (n=3), OCD (n=2) Comorbid axis II disorders mean number 2.5 axis II diagnoses per patient. DPD (n=5), NPD (n=2), BPD (n=1),	36.5 (28-45)	2/8	10 chinese	2 (20%) married	Mean time in education 16 years, all high level education	2 unemployed	Dose kept constant

				PPD (n=1)							
Popa et al. (2013)	Timisoara and Bucharest, Romania	31	OCPD and GAD	NI	36.1 (NI)	14/16	NI	NI	NI	NI	Antidepressant medication Escitalopram (10mg/day)
Renneberg et al. (1990)	USA	17	AVPD	Axis I disorders: SP n=14 (82%), PND w/ agoraphobia n=5 (29%), PND n=2, GAD n=4	34.3 (22-63)	9/8	NI	8 (47%) never married, 9 (53%) married	NI	NI	Dose kept constant
Strauss et al. (2006)	USA	40	AVPD (n=24), OCPD (n=16)	73% mood disorder, 56% anxiety disorder, 28% met criteria for another PD	34.2 (NI)	NI	4 (9%) ethnic minorities	24 (60%) single/ divorced, 16 (40%) married	39 (97.5%) college	NI	NI
Stravynski et	Canada	31	AVPD	Depression, anxiety	31.5	18/13	NI	23 (74%) single, 6	NI	NI	No

al. (1994)				disorders	(18-59)			(19%) married, 2 (7%) divorced			
Svartberg et al. (2004)	NI	50	AVPD (n=31), OCPD (n=17), DPD (n=10), PAPD (n=3), SDPD (n=3), more than 1 PD (n=11)	MDD, DD, PND, agoraphobia, SP	34 (18-65)	25/25	50 Caucasian	17 (34%) single	College education 31	NI	Effect of medication on rates of change found to be very small
Winston et al. (1994)	USA	81	Cluster C (n=36), PD NOS with Cluster C features (n=19), Cluster A (n= 3), Cluster B (n= 18), PD NOS with cluster B features	DD (n=19), MDD (n=4), CT (n=1), AD (n=3), GAD (n=6), Phobias (n=2), PND w/ agoraphobia (n=2), PND (n=2), PSD (n=2),	40.8 (23-61)	33/48	NI	29 (36%) single, 27 (33%) married, 25 (31%) divorced/ widowed	Junior school 1, high school 15, college 27, grad school 35, missing data 3	NI	No

	(n=1), PD NOS with cluster B and C features (n=4)	BN (n=1)

Abbreviations: AD = Adjustment Disorder, APD = Antisocial Personality Disorder, AVPD = Avoidant Personality Disorder, BPD = Borderline Personality Disorder, BN = Bulimia Nervosa, CT = Cyclothymia, DD = Dysthymic Disorder, DPD = Dependent Personality Disorder, DPPD = Depressive Personality Disorder, ED = Eating Disorder, GAD = Generalised Anxiety Disorder, HPD = Histrionic Personality Disorder, MDD = Major Depressive Disorder, NI = Not Indicated, NPD = Narcissistic Personality Disorder, OCD = Obsessive compulsive Disorder, OCPD = Obsessive-Compulsive Personality Disorder, PAPD = Passive-Aggressive Personality Disorder, PDNOS = Personality Disorder Not Otherwise Specified, PND = Panic Disorder, PSD = Psychosexual Dysfunction, SA = Substance Abuse, SD = Somatoform Disorder, SDPD = Self-Defeating Personality Disorder, SP = Social Phobia, SPD = Schizoid Personality Disorder, STPD = Schizotypal Personality Disorder

Outcome Measures

A wide range of outcome measures were utilized within the papers and are illustrated in table 2. Approximately 44 outcome measures were used within the 16 studies. Given the wide range of outcome measures used, the review will focus on measures used to identify the presence and severity of personality disorders and measures, which were used frequently by studies to measure symptoms of distress.

Diagnosis of Personality Disorder

Studies used a range of both self-report and interview measures to determine personality disorder diagnosis and severity of personality psychopathology. Self report measures included; Assessment of DSM-IV Personality Disorder Questionnaire (ADP-IV; Schotte & Doncker, 1996), The Dutch Version of the Dimensional Assessment of Personality Pathology Basic Questionnaire (DAPP-BQ; Livesley & Jackson, 2002; van Kampen, 2002), Severity Indices of Personality Problems (SIPP; Verheul et al., 2008), Personality Belief Questionnaire (PBQ; Beck & Beck, 1991), Personality Disorder Questionnaire (PDQ; Hyler et al., 1983; PDQ-4+; Hyler, 1994), Millon Clinical Multiaxial Inventory (MCMI; Millon, 1983), Minnesota Multiphasic Personality Inventory (MMPI; Gilberstadt & Drucker, 1965) and the Wisconsin Personality Disorders Inventory (WISPI; Klein et al., 1993). Interview measures included; Structured Clinical Interview of DSM Axis II Personality Disorders (SCID-II; First, Spitzer, Gibbon, Williams, & Benjamin, 1994), Dutch version of the Structured Interview for DSM-IV personality (SIDP-IV; DeJong, Derks, Van Oel, & Rinne, 1996; Pfohl, Blum, & Zimmerman, 1997) and the

Personality Disorder Examination (PDE; Loranger, Lehmann Susman, Oldham & Russakoff, 1987; Loranger, 1988).

Self Report Measures

Wisconsin Personality Disorders Inventory (WISPI; Klein et al., 1993)

The WISPI was used by 3 studies (Barber et al., 1997; Muran et al., 2005; Strauss et al., 2006). It consists of a 214-item questionnaire scaled in a likert format and derived from an interpersonal perspective of DSM personality disorders.

Personality Diagnostic Questionnaire (PDQ; Hyler et al., 1983; PDQ-4+; Hyler, 1994)

Three studies used the PDQ however they used different versions of the PDQ; the PDQ (Winston et al., 1994), the PDQ-4 (Emmelkamp et al., 2006) and the PDQ-4+ (Eikenaes et al., 2006). The PDQ is a 99-item/100-item true/false questionnaire that provides personality diagnoses consistent with the DSM PD criteria.

Millon Clinical Multiaxial Inventory (MCMI; Millon, 1983)

The MCMI was used in 2 studies (Alden, 1989; Svartberg et al., 2004). The MCMI is a 175-item questionnaire used to assess psychopathology consisting of 20 scale, 9 reflecting axis I disorders and 11 reflecting axis II personality disorders. Both studies only used components on the MCMI with Alden (1989) using the AVPD scale and

axis I scales to screen for the presence of these diagnoses and Svartberg et al. (2004) using the cluster C PD scales only.

Assessment of DSM-IV Personality Disorder Questionnaire (ADP-IV; Schotte & Doncker, 1996)

One study (Bamelis et al., 2014) used the ADP-IV. The ADP-IV is a 94-item questionnaire that assesses categorical and dimensional assessment of the DSM-IV personality disorders. Each trait item is assessed on a 7-point scale; if the rating is greater than 5 then an additional 3-point scale to measure distress is completed. The ADP-IV provides both a dimensional trait score and a categorical score for each DSM-IV PD. The inclusion of distress ratings and the dimensional scoring allows for the construction of detailed profiles of personality psychopathology.

Minnesota Multiphasic Personality Inventory (MMPI; Gilberstadt & Drucker, 1965)

The MMPI was used in 1 study (Stravynski et al.,1994). The version of MMPI utilized in this study was a 39-item inventory developed to measure 10 dimensions of personality psychopathology.

Personality Belief Questionnaire (PBQ; Beck & Beck, 1991)

One study (Ng, 2005) used the PBQ, which contains 9 scales that list specific sets of belief designed to theoretically and clinically correspond to 9 DSM-II PDs. These

scales can be administered separately or together. Patients who endorse a particular set of beliefs are likely to meet the behavioural criteria for the corresponding PD. The PBQ is not designed to be definitive diagnostic instrument however it offers an important source of information not only on diagnosis but also for use in therapy (Beck et al., 2001).

Personality Disorder Belief Questionnaire (PDBQ; Arntz, Dreessen, Schouten & Weertman, 2004)

One study (Emmelkamp et al., 2006) utilized the avoidant, dependent and obsessive compulsive personality subscale of the PDBQ. The PDBQ borrows from the PBQ examining 6 PDs in relation to six sets of beliefs and identified that PD-related beliefs were at least partially related to personality pathology.

The Dutch Version of the Dimensional Assessment of Personality Pathology Basic Questionnaire (DAPP-BQ; Livesley & Jackson, 2002; van Kampen, 2002)

One study (Bartak et al., 2010) used the DAPP-BQ to measure the type and degree of personality pathology, providing primary trait scores on 18 scales. It delivers a dimensional profile of personality.

Severity Indices of Personality Problems (SIPP; Verheul et al., 2008)

The SIPP was used by Bartak et al. (2010). The SIPP consists of 118-items, respondents are required to answer on a 4-point likert scale which are assigned to 16 facet which are clustered into 5 higher order domains, including; self-control, social concordance, identity integration, relational capacities and responsibility.

The DECAS Personality Inventory (Sava, 2008)

The DECAS personality inventory was utilized by Popa et al. (2013) and is a modern psychometric measure designed to assess dimensional spheres of personality according to the big five- personality factors theory. The DECAS measures the 5 personality factors, openness, extraversion, conscientiousness, agreeableness and emotional stability.

Interview Measures

Structured Clinical Interview of DSM Axis II Personality Disorders (SCID-II; First et al., 1994)

Thirteen studies used the Structured Clinical Interview of DSM Axis II Personality Disorders (Bamelis et al., 2014; Barber et al., 1997; Eikenaes et al., 2006; Emmelkamp et al., 2006; Gude & Hoffart, 2008; Hellerstein et al., 2005; Muran et al., 2005; Ng, 2005; Renneberg et al., 1990; Strauss et al., 2006; Svartberg et al., 2004; Winston et al., 1994; Popa et al., 2013). Bartak et al. (2010) utilised the Dutch version of the Structured Interview for DSM-IV personality (SIDP-IV; DeJong, Derks, Van Oel, & Rinne,1996; Pfohl, Blum, & Zimmerman, 1997). Emmelkamp et

al. (2006) only used the subsets from the SCID-II for PDs scored positive on the PDQ-4.

Personality Disorder Examination (PDE; Loranger et al., 1987; Loranger, 1988)

2 studies used the PDE (Alden, 1989; Barber et al., 1997). The PDE is a semi-structured clinical interview developed to examine life experiences and phenomenological factors relevant to the diagnosis of DSM-III personality disorders (Loranger et al., 1987). Within these studies the PDE was used for only part of the sample before deciding to use the SCID-II instead (Barber et al., 1997) or to differentiate a diagnosis of AVPD from other similar PDs (Alden, 1989).

Diagnostic Measures

Measures used in the initial screening of personality disorder diagnoses included: SCID-II (13 studies: Bamelis et al., 2014; Barber et al., 1997; Eikenaes et al., 2006; Emmelkamp et al., 2006; Gude & Hoffart, 2008; Hellerstein et al., 2005; Muran et al., 2005; Ng, 2005; Popa et al., 2013; Renneberg et al., 1990; Strauss et al., 2006; Svartberg et al., 2004; Winston et al., 1994), PDQ (2 studies: Emmelkamp et al., 2006; Winston et al., 1994), PDE (2 studies: Alden, 1989; Barber et al., 1997), MCMI (Alden, 1989), PBQ (Ng, 2005), DECAS (Popa et al., 2013), ADP-IV (Bamelis et al., 2014), DAPP-BQ (Bartak et al., 2010); SIPP (Bartak et al., 2010) and Stravynski et al. (1994) identified participants according to DSM-III PD criteria.

Severity Measures

Measures used to identify changes in personality disorder severity following treatment included; SCID-II (6 studies: Bamelis et al., 2014; Barber et al., 1997; Eikenaes et al., 2006; Emmelkamp et al., 2006; Ng, 2005; Strauss et al., 2006), WISPI (3 studies: Barber et al., 1997; Muran et al., 2005; Strauss et al., 2006), ADP-IV (Bamelis et al., 2014), MCMI (Svartberg et al., 2004), MMPI (Stravynski et al., 1994), DECAS (Popa et al., 2013), PBQ (Ng, 2005), PDBQ (Emmelkamp et al., 2006); PDQ-4+ (Eikenaes et al., 2006).

Axis I symptoms

A wide range of axis I disorder measures were utilized by studies, ranging from structured diagnostic measures to self-report measures and are illustrated in table 2. Half of the studies (Bamelis et al., 2014; Bartak et al., 2010; Eikenaes et al., 2006; Gude & Hoffart, 2008; Hellerstein et al., 2005; Muran et al., 2010; Svartberg et al., 2004; Winston et al., 1994) in this review made use of the Symptom Check List 90 (SCL-90; Derogatis, Lipman & Covi, 1973) or the Symptom Check List 90 revised edition (SCL-90-R; Derogatis, 1983). The SCL-90-R is a 90-item self-report measure of symptom distress, which consists of 9 sub-dimensions (somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, psychoticism) and 3 summary scores referred to as global severity index, positive symptom distress index and positive symptom total. The items are scored from zero (no distress) to four (high level of distress). The SCL-90-R is a widely used measure of psychological distress. The SCL-90-R Turkish and German

versions have been found to be valid, reliable and a useful measure of psychological status and measuring change in outcome studies or screening for mental disorders (Listesi, 1991; Schmitz et al., 2000). The SCL-90-R has demonstrated excellent internal consistency for cognitive/affective depression subscales ad adequate internal consistency of the somatic depression subscale (Buckelew, Burk, Brownlee-Duffeck, Frank & DeGood, 1988). The SCL-90 provides a readily comparable severity measure, which has been validated in these treatment trials for use with this population.

Interpersonal Problems

Over a quarter of the studies (6 studies: Barber et al., 1997; Eikenaes et al., 2006; Gude & Hoffart, 2008; Hellerstein et al., 2005; Muran et al., 2005; Svartberg et al., 2004) utilized the Inventory of Interpersonal Problems (IIP; Horowitz, Rosenberg, Baer, Ureno & Villasenor., 1988). Studies used both the full 127 item version of the IIP and The Circumplex 64-item version (IIP-C; Alden, Wiggins & Pincus., 1990). The full IIP is an assessment tool for interpersonal problems on 7 dimensions: hard to socialize, hard to be assertive, hard to separate, hard to be intimate, hard to be subordinate, too controlling and an additional scale. The circumplex 64-item version consists of eight subscales; dominating, vindictive, cold, non assertive, exploitable, overly nurturing and intrusive. The IIP has demonstrated good psychometric properties, high internal consistency and test-retest reliability (Horowitz et al., 1988). This review suggests that it may be an appropriate tool for measuring interpersonal problems in this population.

Table 2: Outcome measures

Study	Outcome measures	Diagnostic Measures/ PD Severity	Axis I symptoms	Interpersonal Problems	Therapeutic Alliance	Observer rated/ therapist rated measure	Social phobia and shyness, self esteem	Quality of Life	Idoiosyncratic measures
Alden (1989)	SORT, SRI, SQ, social targets, self monitoring, interviewer behaviour ratings	MCMI, PDE				Interviewer behavior ratings	SORT, SRI, SQ, social targets		Self monitoring
Bamelis et al. (2014)	SCID-II, SCID-I, ADP-IV, Global Assessment of Functioning Scale, Social and Occupational Functioning Assessment Scale, ADP-IV dimensional subscale, SCL-90	SCID-II, Assessment of DSM-IV Personality Disorders Questionnaire	SCL-90			Global Assessment of Functioning Scale, Social and Occupational Functioning Assessment Scale			
Barber et al. (1997)	SCID-I diagnose axis I disorders, SIGH-D, HARS, BDI, BAI, CALPAS, GAF, IIP	SCID-II, WISPI	SCID-I, SIGH-D, HARS, HARSD, BDI, BAI	IIP	CALPAS	GAF			Expectations of Treatment
Bartak et al. (2010)	Dutch version of structured interview for DSM-IV PDs, DAPP-BQ, SIPP, Dutch version of Brief symptom inventory, SCL-90, 2 subscales on outcome	Dutch version of structured interview for DSM-IV PDs, DAPP-BQ, SIPP	Dutch version of SCL-90 (BSI), OQ-45,					EuroQol, EQ-5D	MTQ-8

	questionniare-45, EQ-5D							
Eikenaes et al. (2006)	SCID-I used to diagnose axis I, SCL-90, GSI, BDI, IIP, PARS,	SCID-II, PDQ-4+	SCID-I, SCL-90 (BSI), BAI, BDI,	IIP			PARS	
Emmelkamp et al. (2006)	PDQ-4, SCID-II (used only on subscales screen positive on PDQ-4, PDBQ , LWASQ, SPAI	PDQ-4, SCID-II (used only on subscales screen positive on PDQ-4, PDBQ	LWASQ, SPAI,					Avoidance scale
Gude & Hoffart (2008)	IIP (TAU- 127 item version, CT- 64 item version), SCL-90, Mobility inventory for Agoraphobia , SCID-I used to diagnose axis I	SCID-II	SCL-90	IIP and IIP-C,			Mobility Inventory for Agoraphobia	
Hellerstein et al. (1998)	SCL-90, GSI, IIP, PTC,WAI	SCID-II	SCID-I, SCL-90-R (GSI),	IIP	WAI			PTC
Muran et al. (2005)	SCL-90-R, TC, GAS, IIP-64, WISPI,	SCID-II, WISPI	SCID-I, SCL-90-R	IIP-64		Global Assessment Scale (GAS)		PTC, TTC
Ng (2005)	BDI, BAI, BHS, SCID-I to diagnose and done again at end of treatment, GAF	SCID-II, PBQ	SCID-I, BDI, BAI, BHS,			Global Assessment of Functioning		

Popa et al. (2013)	SCID-II, HARS, DECAS personality inventory,	SCID-II, DECAS personality inventory	HARS					
Renneberg et al. (1990)	FNE, PSS, Tennessee Self-Concept Scale, SAD, GRAI, BDI, STAI, SAS-SR, SCID-I used for diagnosis of axis I disorders	SCID-II,	SCID-I, BDI, STAI				FNE, PSS, SAD, SAS-SR, Gabrill and Richey Assertion Inventory	
Strauss et al. (2006)	CALPAS, BDI, SCID	SCID-II, WISPI	SCID-I, BDI		CALPAS			
Stravynski et al. (1994)	SAD, social situation questionnaire, BDI, HAM, SA, SSIAM,	Identified if met DSM-III AVPD criteria, MMPI	BDI, Hamiliton Anxiety Scale, STAI			Behavioural Assessment (rated video role plays of patients)	SAD, SSQ, SSIAM	Self monitoring of social targets
Svartberg et al. (2004)	SCL-90-R, IIP, SCID-I at assessment for axis I disorders	SCID-II, MCMI	SCID-I, SCL-90-R,	IIP				
Winston et al. (1994)	SCL-90-R, social adjustment scale, Target Complaint Rating, SCID-I used to diagnose axis I disorders	SCID-II	SCID-I, SCL-90-R,				Social Adjustment Scale	Target Complaints Rating

Abbreviations: ADP-IV = Assessment of DSM-IV Personality Disorder Questionnaire; AVPD = Avoidant Personality Disorder; BAI = Beck Anxiety Inventory; BDI = Beck Depression Inventory; BHS = Beck Hopelessness Scale; BSI = Brief Symptom Inventory; CALPAS = California Psychotherapy Alliance Scale; DAPP-BQ = Dutch version of the Dimensional Assessment of Personality Pathology Basic Questionnaire; EuroQoL/EQ-5D = Health Related Quality of Life; FNE = Fear of Negative Evaluation Scale; GSI – Global Severity Index from SCL-90; HARS/HAM = Hamilton Anxiety Rating Scale;HRSD = Hamilton Rating Scale of Depression; IIP = Inventory of Interpersonality Problems

(127 item full version); IIP-C /IIP-64= Inventory of Interpersonal Problems CIrcumplex Scale (64 item version; LWASQ = Lehrer-Woolfolk Anxiety Symptom Questionnaire; MCMI = Millon Clinical Multiaxial Inventory; MTQ-8 = Motivation for Treatment Questionnaire; OQ-45 = Outcome Questionnaire; PARS = Phobic Alliance Rating Scale; PDBQ = Personality Disorder Beliefs Questionnaire; PDE = Personality Disorder Examination; PDQ-4(+) = Personality Disorder Questionnaire; PSS = Personal Self Scale of Tennessee Self Concept Scale; PTC = Patient Target Complaints; SAD = Social Avoidant and Distress Scale; SAS-SR = Social Adjustment Scale; SCID-I = Structured Clinical Inventory for DSM Disorders; SCID-II = Structured Clinical Interview for DSM Axis II Personality Disorders; SCL-90(R) = Symptoms Checklist 90 (revised); SIDP = Structured Interview for DSM-IV Personality; SIGH-D = Structured Interview Guide for Hamilton Rating Scale of Depression; SIPP = Severity of Indices of Personality Problems; SORT = Social Reticence Inventory; SPAI = Social Phobia and Anxiety Inventory; SQ = Shyness Questionnaire; SRI = Self Report Inventory; SSIAM = Structured and Scaled Interview to Assess Maladaptive; SSQ = Social Situation Questionnaire; STAI = State-Trait Anxiety Inventory; TC = Target Complaints; TTC = Therapist Target Complaints; WAI = Working Alliance Inventory; WISPI = Wisconsin Personality Disorder Inventory;

Treatment Modality

Detailed in Table 3, treatment was predominantly provided on an outpatient basis (12 studies: Alden, 1989; Bamelis et al., 2014; Barber et al., 1997; Emmelkamp et al., 2006; Hellerstein et al., 2005; Muran et al., 2005; Ng, 2005; Renneberg et al., 1990; Strauss et al., 2006; Stravynski et al., 1994; Svartberg et al., 2004; Winston et al., 1994) with 2 studies of inpatient treatment (Eikenaes et al., 2006; Hellerstein et al., 2005) and 1 study of a mixed intervention (Bartak et al., 2010). 1 study (Popa et al., 2013) failed to provide information on this.

Multiple research designs were used. 6 studies were defined as randomised controlled trials (RCTs) (Alden, 1989; Bamelis et al., 2014; Emmelkamp et al., 2006; Stravynski et al., 1994; Svartberg et al., 2004; Winston et al., 1994), while 3 studies were quasi-experimental studies (Bartak et al., 2010; Eikenaes et al., 2006; Gude & Hoffart, 2008). The remaining studies consisted of; naturalistic non-randomised trial (Barber et al., 1997), a randomised prospective study (Hellerstein et al., 1998), a comparative outcome study (Muran et al., 2005), a prospective longitudinal study (Ng, 2005) and an open trial (Strauss et al., 2006). 2 studies failed to provide their research design (Popa et al., 2013; Renneberg et al., 1990). 9 studies compared more than 1 treatment condition (Alden, 1989; Bamelis et al., 2014; Bartak et al., 2010; Emmelkamp et al., 2006; Hellerstein et al., 2005; Muran et al., 2005; Stravynski et al., 1994; Svartberg et al., 2004; Winston et al., 1994). 3 studies employed a waiting list control (WLC) (Alden, 1989; Emmelkamp et al., 2006; Winston et al., 1994). 5 studies purely focused on a single treatment condition and had no control or

comparison group (Barber et al., 1997; Ng, 2005; Popa et al., 2013; Renneberg et al., 1990; Strauss et al., 2006). One study (Gude & Hoffart, 2008) completed a comparison with patients from their database, 2 studies (Bamelis et al., 2014; Gude & Hoffart, 2008) compared their treatment condition to treatment as usual (TAU) and one study compared their treatment conditions to a WLC from another study (Winston et al., 1994).

A wide range of therapeutic interventions were utilized within the studies. These can broadly be divided into cognitive- behavioural (10 studies: Alden, 1989; Bamelis et al., 2014; Emmelkamp et al., 2006; Gude & Hoffart, 2008; Muran et al., 2005; Ng, 2005; Popa et al., 2013; Renneberg et al., 1990; Stravynski et al., 1994; Svartberg et al., 2004); and psychodynamic/psychoanalytic approaches (6 studies: Barber et al., 2010; Emmelkamp et al., 2006; Hellerstein et al., 2005; Muran et al., 2005; Svartberg et al., 2004; Winston et al., 1994). All studies emphasized the importance of therapeutic alliance, although only 3 studies (Barber et al., 1997; Hellerstein et al., 2005; Strauss et al., 2006) formally measured this. Four studies compared contrasting approaches (Emmelkamp et al., 2006; Hellerstein et al., 2005; Muran et al., 2005; Svartberg et al., 2004). These comparisons include CBT versus BDP (Emmelkamp et al., 2006), STDP versus BSP (Hellerstein et al., 2005), STDP versus BRT versus STCT (Muran et al., 2005), STDP versus CT (Svartberg et al., 2004). IWT (Eikenaes et al., 2006), BSP (Hellerstein et al., 2005), BRT (Muran et al., 2005), BAP (Winston et al., 1994) were therapies utilized in individual studies which consisted of mixed theoretical perspectives. Balemis et al. (2014) compared schema therapy and clarification-oriented psychotherapy which are both focused on schema-

conceptualisations and the belief that personality pathology develop as a result of adverse childhood experiences however Balemis et al. (2014) suggested that they also had important differences. Bartak et al. (2010) compared treatments depending on where they were delivered and whether they were short or long term and identified that treatments consisted of a range of therapeutic and psychosocial treatments. Perhaps unsurprisingly the most commonly used treatments were Short-term dynamic psychotherapy (STDP) and cognitive therapy (CT).

Treatment Effectiveness

Results of treatment effectiveness are given in Table 3. All studies identified improvements following treatments with prodominently medium to large effect sizes. Studies which compared treatments to WLC (Alden, 1989; Emmelkamp et al., 2006; Winston et al., 1994) and TAU (Bamelis et al., 2014; Gude & Hoffart, 2008) demonstrated significant improvements in treatment conditions compared to WLC or TAU, thus supporting the premise that psychological therapies are beneficial for treatment of Cluster C PDs. However given the different therapies and outcome measures used it is difficult to draw clear conclusions. Ten studies provided information on both improvements in symptoms, functioning and personality pathology (Bamelis et al., 2014; Barber et al., 1997; Eikenaes et al., 2006; Emmelkamp et al., 2006; Muran et al., 2005; Ng, 2005; Popa et al., 2013; Strauss et al., 2006; Svartberg et al., 2004; Winston et al., 1994) while 6 studies (Alden, 1989; Bartak et al., 2010; Gude & Hoffart, 2008; Hellerstein et al., 2005; Renneberg et al., 1990; Stravynski et al., 1994) provided results pertaining to improvements in

functioning and symptom reduction with little or no reference to changes in underlying personality pathology.

It was difficult to gain clarity about which psychological interventions are the most effective in treating cluster C PDs as there was a clear bias towards cognitive behavioural approaches followed by psychodynamically oriented approaches. Findings were mixed, with 5 studies that compared treatments finding no significant difference. This included; a comparison between 3 behavioural approaches (Alden, 1989), STDP and brief supportive psychotherapy (Hellerstein et al., 2005), short-term dynamic psychotherapy, cognitive behavioural therapy and brief relational therapy (Muran et al., 2005), CBT and STDP (Svartberg et al., 2004), STDP and brief adaptive psychotherapy (Winston et al., 1994); suggesting treatments were equally effective. Only 3 studies found a significant difference between treatments and suggested the cognitive therapies may be superior. This included; schema therapy over TAU and clarification-oriented psychotherapy (Bamelis et al. (2014), cognitive behavioural therapy superior to brief dynamic therapy (Emmelkamp et al., 2006) and cogntiive therapy superior to TAU (Gude & Hoffart, 2008). Bartak et al. (2010) suggested that short-term inpatient treatment was superior to outpatient or day treatment however no other studies compared different therapeutic settings.

Barber et al. (1997) were the only study to investigate and find a different treatment response between OCPD and AVPD. Following manualised supportive expressive therapy individuals with OCPD appeared to lose their PD diagnosis sooner than

those with AVPD. Due to the lack of evidence and studies examining differences between treatments for different cluster C PDs it is not possible to ascertain whether this difference would have occurred irrespective of the type of psychological therapy or which treatments would be best for specific cluster C presentations.

Only one studies (Eikenaes et al., 2006) identified a significant difference between scores for men and women following treatment. Eikenaes et al. (2006) noted that men benefited more from integrated wilderness therapy and women from the database control condition. They suggested that this difference may have been a result of men benefiting more from a focus on 'doing' where women may benefit more from talking.

These findings suggest that while there is growing and consistent evidence that psychological interventions lead to improvements in personality psychopathology and distress for individuals with cluster C PDs, there is less clarity over which treatment approaches are most effective. Several studies (Alden, 1989; Renneberg et al., 1990; Svartberg et al., 2004; Winston et al., 1994) identified that while improvements were evident following psychological interventions this did not always equate to recovery, with individuals still functioning below normative levels.

Follow-up

12 out of 16 studies indicated some level of follow-up from 3 months (Alden, 1989; Stravynski et al., 1994), 6 months (Emmelkamp et al., 2006; Hellerstein et al., 2005; Muran et al., 2005; Stravynski et al., 1994; Svartberg et al., 2004) to 1 year follow-up (Eikenaes et al., 2006; Gude & Hoffart, 2008; Renneberg et al., 1990; Svartberg et al., 2004). Winston et al. (1994) reported an average follow-up time of 1.5 years, ranging from 6 months to 4.5. years while Bamelis et al. (2014) carried out a 3 year follow-up. Bartak et al., (2010) identified that different follow-up analyses were carried out by different treatment centres; however no details of the results of follow-up were indicated.

Attrition Rates

Reporting of attrition rates varied between studies with some studies reporting overall attrition rates and others providing more detailed attrition rates from treatment groups. Some studies reported no drop outs from treatment (Ng, 2005; Renneberg et al., 1990), drop outs at follow up only (Renneberg et al., 1990) and 2 studies provided insufficient information on drop outs from treatment (Bartak et al., 2010; Popa et al., 2013). Treatment attrition rates ranged form 0-46%. Higher drop out rates for STDP were found in a number of studies (Hellerstein et al., 2005; Muran et al., 2005; Winston et al., 1994).

Table 3: Study design and Interventions

Study	Study design	Treatment	Control/ Comparison Group	Individual/ group	Setting	Number of Sessions	Follow-up	Significant Results
Alden (1989)	RCT	3 tx conditions : GE, IST, IF (all tx conditions utilised elements of CT)	WLC	Group	Outpatient	10 (2-2.5 duration) weekly	3 month	Subjects in the 3 Tx arms displayed significantly more improvements that controls. The IF condition was found to be superior to the IST on two dependent variables (frequency of social activities and satisfaction with social activities). Tx improvements were maintained at 3 month follow-up. No between-conditions differences emerged after tx completion Subjects were compared with normative samples on standardized measures of social reticence and self esteem. Subjects were still below normative samples at the end of tx indicating that despite treatment being beneficial subjects did not achieve normative levels of functioning.
Bamelis et al. (2014)	RCT (parallel group	Schema Therapy	TAU and Clarification oriented psychotherap	Individual	Outpatient	50 weekly sessions (40 sessions in 1st year and	3 year follow-up	ST superior to TAU on primary outcome (greater recovery from PD). On secondary outcome measures assessing anxiety disorders, general pathology,

	design)		y			10 additional booster sessions		personality disorder traits, social functioning, quality of life, and self-ideal discrepancy, improvement over time occurred in all conditions, with large effect sizes. No between condition differences emerged.
Barber et al. (1997)	Naturalistic, non-randomised	Manualised supportive expressive therapy tailored for AVPD and OCPD	No control or comparison	Individual	Outpatient	52 weeks over 16 months	Not indicated	End of Tx: 15.4% of OCPD participants met criteria for OCPD vs. 38.5% of AVPD participants met criteria for AVPD still retained their diagnosis. OCPD patients lost their diagnosis sooner than AVPD. By second assessment 50% of OCPD participants had lost diagnosis while it was not until third assessment that 50% of AVPD participants had lost diagnosis. 5 participants relapsed and 4 of them continued to meet diagnostic criteria until end of the study.
Bartak et al. (2010)	Prospective quasi experimental study	Mixed psychother-apeutic/ psychosocial treatment: LTOP (n=68), STDH (n=77), LTDH (n=74),	No control group	Individual or Group treatment for each treatment condition	Out-patient, Day hospital, inpatient	LTOP: 2 sessions X wk > 6 months. STDH: min 1 AM/PM per wk for max 6 months. LTDH: min 1 AM/PM per week	Varied across different centers, results not discussed	Improvements between baseline and assessment at 12 months proved to be significant in all tx groups on all 4 outcome measures ($p<0.001$). One year after baseline patients in all tx groups showed improvements in psychiatric symptoms (GSI). ES's ranged from 0.62 (STDH group) to 1.78 (STIT group). The STIT group showed significantly more improvement in psychiatric symptoms than 3

		STIT (n=59). LTIP (n=93)				for > 6 months. STIT: stay at hospital 5 days per wk max 6 months. LTIT: 5 days/wk for > 6 months		other groups (ES's = 0.54, 0.57, 0.40). STIT group improved significantly more on social function than 2 other groups (ES's = 0.49 & 0.38). Interpersonal functioning was significantly higher in STIT group than STDH group (ES= 0.39). QoL improved significantly more in the short-term inpatient group than in 2 other groups ESs = 0.6 and 0.42).
Eikenaes et al. (2006)	Quasi-experimental study	Integrated wilderness therapy	Comparison group taken from database	Group (treatment condition), control (individual & group)	Inpatient	Inpatient period + IWT and 3 days canoeing trip	12 months	No significant difference between tx conditions. Both groups demonstrated significant improvement in symptoms, interpersonal problems and socialization. In the IWT group, personality pathology was significantly reduced as measured by the SCID-II and PDQ-4+ and there was a non-significant trend for reduction in socially avoidant behavior. In the IWT, enhanced scoialisation during therapy predicted improvement in personality at 1 year follow-up. Results do not indicate IWT as tx of choice for AVPD.
Emmelkamp et al. (2006)	RCT	Manualised CBT (n=21), manualised brief	WLC	Individual	Outpatient	20 wks over 6 months (sessions 45 minutes)	6 months	Both intervention therapies led to significant improvement on all primary outcome measures. CBT led to significant improvement on PDBQ

		dynamic therapy (n=23),				mean 18.5 sessions (range 14-20) for CBT group and mean 18.8 (range 13-20) for BDT group		obsessive compulsive subscale. CBT was significantly superior to control condition on primary outcome measures (PDBQ avoidance subscale and avoidance scale). No significant difference was found between the BDT group and control condition. CBT significantly superior to BDT on all primary outcome measures BDT was not superior to CBT on any of the measures. Results were maintained at follow-up. CBT significantly superior to BDT at follow-up on PDBQ avoidant subscale, PDBQ obsessive compulsive subscale and dependent subscale. At follow-up SCID-II readministered. CBT group 2 out of 22 (9%) of patients and in BDT group 9 out of 25 (36%) patients still fulfilled criteria for APVD. The difference was statistically significant. CBT more effective than WLC and BDT. The order of effectiveness was reflected in ESs=CBT>BDT>control.
Gude & Hoffart (2008)	Quasi-experimental study	Cognitive therapy program: 2 intervention	TAU: individual and group sessions, creative art techniques,	Individual & Group	Inpatients	TAU- average 12 weeks CT- 5 weeks group, 6	12 months	Effect sizes from pretreatment to follow-up on IIP and SCL-90 phobic anxiety dimension were large in the CT group, whereas the TAU group exhibited only low to moderate ESs on interpersonal and symptomatic distress. CT ESs for IIP pretreatment- discharge,

		phases: 5 week cognitive symptom focused closed group. 6 weeks schema focused therapy with 8 group sessions & 9-10 individual sessions	social interaction in life activities. Greater personality pathology greater number of individual sessions. Non-manualised.			weeks schema-focused therapy, 8 group sessions and 9-10 individual sessions		discharge - follow-up, pre-treatment to follow-up (0.38, 0.62, 0.88) TAU ES for IIP pretreatment- discharge, discharge - follow-up, pre-treatment to follow-up (1.15, -0.56, 0.55) CT ESs for SCL-90 pretreatment- discharge, discharge - follow-up, pre-treatment to follow-up (1.18, 0.59, 1.82) TAU ESs for SCL-90 pretreatment-discharge, discharge - follow-up, pre-treatment to follow-up (0.24, -0.29, 0.01) CT group reduced level of interpersonal problems (pretreatment to follow-up) more than TAU. There was no differential change during treatment.
Hellerstein et al. (1998)	Randomised prospective study	Brief supportive psychotherapy (based on manualised protocol)	Comparison group: STDP (based on manualised protocol)	Individual	Outpatient	mean duration of treatment was: 29.9 ± 13.8 weeks (whole sample), 28.5 ± 14.7 (STDP), 31.5 ± 12.9 (BSP)	6 months	No significant differences between subjects in STDP and BSP on PTC, SCL-90, or IIP at any of the time points (intake, midphase, termination, follow up periods. The ESs for these between group analyses were mostly small, with some of medium size. They suggest that BSP deserves serious consideration as an active modality of psychotherapy and one that appears to have comparable efficacy to a highly structured confrontational transference based psychodynamic psychotherapy. They indicate that BSP may be ideal for

								promoting and maintaining a positive stable therapeutic alliance.
Muran et al. (2005)	Comparative outcome study	Brief relational therapy (manualised and tailored for personality disorders)	Comparison groups: STDP, short term CT (both manualised and tailored for personality disorders)	Individual	Outpatient	30 sessions, 1 per week for al conditions	6 months	No difference was found between tx conditions although there was an interaction effect that approached statistical significance with a large effect ES =.55. Results demonstrated that the three tx, STDP, CBT and BRT were equally effective for a sample of patients who were highly comorbid on axis I and II (87% with both axis I and II disorders). No significant differences were found among the 3 treatments on any of the measures except PTC where they found difference favouring BRT and CBT over STDP. CBT statistically more effective than STDP on the IIP at termination. The 3 txs should be interpreted as equally effective for participants completing the protocol.
Ng (2005)	Uncontrolled, prospective longitudinal study	Cognitive therapy (adapted for Chinese population)	No control /comparison	Individual	Outpatient	Mean 22.4 sessions. Range (18-35 sessions) over 18 months (range 9-24 months)	NI	Patients fulfilled a mean of 7 of 8 diagnostic criteria for OCPD before therapy. Only 1 participant still fulfilled 4 of the diagnostic criteria of OCPD. 6 were free from axis II diagnosis although 3 retained 1 axis II diagnosis, BPD (1), DPD (1), narcissistic (1). 8 were free from axis I diagnoses while 2 still retained 1 axis I disorder: GAD (1), major depressive disorder (2).

								There was a significant decrease in all outcome parameters, suggesting symptoms of depression and anxiety improved with therapy. The reduction in severity of OCPD as measured by the SCID-II and PBQ is encouraging.
Popa et al. (2013)	NI	Cognitive behavioural therapy	No control or comparison	Individual	NI	40 sessions (twice a week until GAD remission then once a week thereafter) (GAD- 15-20 sessions, OCPD- 20-25 sessions)	NI	After remission from GAD specific anxiety symptoms and the end of psychotherapy the extroversion dimension went from a low to an average level representing an increase in optimism, good humour and increased confidence. Agreeableness dimension went from high to very high level in male patients and from average to high for female patients. Agreeableness demonstrates a higher degree of social orientation towards the needs of others, choosing cooperation instead of competition as well as increased tolerance in human relationships. Emotional stability increased from an average to high level demonstrating increased ability to regulate emotions, better tolerance of frustration, higher degree of rational thinking.
Renneberg et al. (1990)	NI	Intensive behavioural treatment	No control/ Comparison	Group	Outpatient	32 hours of group treatment over 4 days.	12 months	The proportion of patients who recovered was smaller than those who improved except on the FNE and SAD which demonstrate the same percentage recovery.

						Administered in 2 consecutive days followed by 2 consecutive days 1 week later		Highest improvement and recovery rates for both the posttest and follow-up assessment (40-55%) were obtained on the FNE scale. No one got worse with treatment but one participant deteriorated on the STAI scale during follow-up. Improvement rates for the SAD are higher at 1 year follow-up than at post-test (17% versus 33% respectively). Results suggest treatment gains are stable over 1 year.
Strauss et al. (2006)	Open trial	Cognitive therapy for personality disorders	No control/ Comparison	Individual	Outpatient	10-52 sessions over 12-16 months	NI	CT-PD was associated with significant improvements in personality symptoms. Within group ESs (pretreatment score-posttreatment score/ pre treatment standard deviation) were large WISPI ES=1.88, SCID-II ES=2.19, BDI ES=1.18. All participants met criteria for AVPD or OCPD on SCID-II at intake but only 7% (2/30) met criteria at post-treatment. 73% (22/30) met criteria for comorbid mood disorder at intake but only 37% (11/30) met criteria at posttreatment. 57% (17/30) met criteria for significant change on WISPI, 73% (22/30) on the SCID-II and 60% (24/40) on the BDI. Higher early alliance scores were significantly associated with completing more sessions whereas pretreatment symptom severity score were not. Early alliance scores were

								not associated with early symptom change on the WISPI or SCID-II but were significantly correlated with early BDI change.
Stravynski et al. (1994)	RCT	SST in clinic or SST in vivo	Comparison between 2 treatment conditions	Group	Outpatient	14.5 hours in total, 1 session per week for 8 weeks) 90 minute sessions	3, 6 months (additional 1 session monthly)	Patients in both treatments improved significantly and equally on many outcome measures. Anxiety reduced and mood improved. Participants reported being less avoidant and anxious in social situations. They reported being less isolated and experienced less friction with others. There was also a reduction in their suspiciousness and perceived hostile intentions attributed to others. The addition of 4 sessions of SST in vivo to 4 previous sessions of training in clinic did not enhance outcome compared with training in the clinic alone. Both txs were followed by clinical meaningful and statistically significant improvement. Improvements maintained over 3-month follow-up. SST appears to be a promising, economical and appropriate short term treatment for AVPD. However SST in real life proved to be dissappointing as it did not enhance tx efficacy. It was also associated with a very high drop out rate.

Svartberg et al. (2004)	RCT	STDP or CT utilizing cognitive model of personality disorders	Comparison between 2 treatment conditions	Individual	Outpatient	40 weekly sessions	6, 12, 24 months	Improvement trajectories for STDP and CT were on average highly similar as measured by both the SCL-90-R and IIP. ESs were small and not statistically significant. Rate of change for each tx group separately were generally large for symptom distress and interpersonal problems both during and after treatment. Even although the mean rate of symptom change during follow-up for STDP was almost twice as large as that of CT the difference between those rates was statistically non significant. Cluster C PD pathology assessed on the MCMI changed favourably for the overall patient group during treatment and during follow-up. There was no significant difference between groups at termination or at follow-up. AS measured by IIP and MCMI differences between groups were very small. As expected more participants return to functional status on the general community population than to asymptomatic status
Winston et al. (1994)	RCT	BAP or STDP	WLC	Individual	Outpatient	Mean number of sessions 40.3.	Average 1.5 years after treatment ended (6months –	Tx groups demonstrated significant change on the outcome measures however there was no significant difference between them. There was no significant difference between scores for men and women.

	4.5 years	Findings indicate that active STDP leads to siginifcant improvements in patients with Cluster C PD as well as some with cluster B disorders (primarily histrionic). Improvement was maintained over the course of an average follow-up period of 1.5 years.

Abbreviations: AVPD= Avoidant Personality Disorder; BAP = Brief adaptive psychotherapy; BDI = Beck Depression Inventory; BDT = Brief Dynamic Therapy; BRT = Brief Relational Therapy; BSP = Brief Supportive Psychotherapy; CC = Control Condition; CBT = Cognitive Behaviour Therapy; CT = Cognitive Therapy; CTPD = Cognitive Therapy for Personality Disorders; ES = Effect Size; FNE = Fear of Negative Evaluation; GAD = Generalised Anxiety Disorder ; GE = Graded Exposure; IF = Intimacy Focus; IIP = Inventory of Interpersonal Problems; IST = Interpersonal Skills Training; IWT = Integrated Wilderness Therapy; LTDH = Long-term day-hospital; LTIT = Long-term inpatient treatment ; LTOP = Long Term Outpatient Psychotherapy; LWASQ = Lehrer Woolfolk Anxiety Symptom Questionnaure; mSEP = manualised Supportive Expressive Psychotherapy; MCMI = Millon Clinical Multiaxial Inventory; NI = Not Indicated; OCPD = Obsessive-Compulsive Personality Disorder; PD = Personality Disorder; PDBQ = Personality Disorder Beliefs Questionnaire; QoL = Quality of Life; RCT = Randomised Controlled Trial;; SAD = Social Avoidance and Distress Scale; SCID-II = Structured Clinical Interview for DSM Axis II Personality Disorders; ST = Schema Therapy; STAI = State Trait Anxiety Inventory; STDH = Short-term day hospital; STDP = Short Term Dynamic Psychotherapy; STIT = Short-term inpatient treatment; SST = Social Skills Training; TAU = Treatment as Usual; Tx = Treatment; wk = Week; WISPI = Wisconsin Personality Disorder Inventory; WLC = Waiting List Control

2.6 DISCUSSION

This review sought to identify, summarise and critically evaluate research papers that have investigated the effectiveness of psychological treatments for cluster C personality disorders. In doing so it provides the first systematic overview of psychological treatments for Cluster C PD's. The review identified a body of evidence for the application of psychological therapies to Cluster C PD. There was some evidence that cognitive behavioural and psychodynamic approaches were associated with improvements in personality psychopathology and axis I symptomatology. This supports a theoretical rationale for developing psychological treatments specifically adapted to Cluster C PD presentations. However, results are tempered by the high level of methodological, treatment and sampling variations in the studies reviewed. Unsurprisingly rates of co-morbidity were high. The wide range of co-occurring PDs and axis I disorders evident from the studies demonstrates the complexity of presentations, co-occurring disorders and the challenge of identifying a homogenous sample.

A number of methodological problems were evident in the current literature. These were identified through the quality criteria (appendix E), which was informed by CONSORT (Moher et al., 2001). It is important to acknowledge that while the quality criteria was developed in accordance with published quality criteria guidelines it was not validated so results should be interpreted with caution. Six studies described themselves as randomized controlled trials (Alden, 1989; Bamelis et al., 2014; Emmelkamp et al.,2006; Stravynski et al., 1994; Svartberg et al., 2004;

Winton et al., 1994) with an additional study (Hellerstein et al., 2005) also meeting criteria of being randomly assigned to a treatment and comparison group but did not describe their study as an RCT as there was no control group. Out of the 7 studies, which utilized a randomized design, only 1 (Bamelis et al., 2014) provided details on how participants were randomly assigned to groups, by an independent statistician.

Only 3 studies compared treatment with a waiting list control (Alden, 1989; Emmelkamp et al., 2006; Winston et al., 1994), 2 with a TAU group (Bamelis et al., 2014; Gude & Hoffart, 2008) while 9 studies compared more than 1 treatment condition (Alden, 1989; Bamelis et al., 2014; Bartak et al., 2010; Emmelkamp et al., 2006; Hellerstein et al., 2005; Muran et al., 2005; Stravynski et al., 1994; Svartberg et al., 2004; Winston et al., 1994). One study had a database comparison (Eikenaes et al., 2006) and 5 studies had no control or comparison group (Barber et al., 1997; Ng, 2005; Popa et al., 2013; Renneberg et al., 1990; Strauss et al., 2006). WLC are considered the optimal approach however this often raises significant ethical concerns. Studies often get around this by later randomly assigning WLC participants to the treatment group(s). While TAU is supposed to consist of a non-manualised standardised psychotherapeutic treatment offered in a naturalistic setting, in many studies TAU varies considerably, often failing to include any psychotherapeutic intervention or lacking the same level of commitment provided to the intervention group therefore providing an advantage to the intervention condition (Budge et al., 2013; Duggan et al., 2007). Details of what consisted of TAU were provided by only 1 study (Gude & Hoffart, 2008) while the other study (Bamelis et al., 2014) did not provide details of their TAU condition. These findings are

consistent with Bateman and Fonagy (2000), highlighting the need for research in personality disorders to have clearer lines of enquiry. This includes greater clarity in relation to clearly defined populations, interventions, comparison of treatment interventions with TAU or control groups. At present the evidence base is limited in its capacity to demonstrate that treatment impacts upon underlying personality pathology rather than merely providing short-term symptom change.

Outcome measures varied significantly between papers making it difficult to compare and synthesise data. There was some evidence that the SCL-90 and IIP were effective measures of distress and interpersonal problems within a Cluster C population. Unfortunately some studies focused on changes to axis I symptomatology without examining changes to underlying personality psychopathology. Underlying personality pathology is likely to attenuate psychological treatment for axis I disorders (Reich & Green 1999) and therefore studies which focused purely on changes in axis I symptomatology failed to address changes in PD severity/symptoms. Basing effectiveness purely on axis I symptom changes does not adequately address whether treatments are effective for treating PDs. Outcome measures for PDs also varied. Within the studies a wide range of measures were used to ascertain PD diagnosis and severity.

Outcome measures for PD were generally based on the DSM classification system of axis II disorders. Hopwood and Thomas (2014) raise serious concerns over the use of personality disorder measures based on taxonomic system for classifying PDs, which

is known to be psychometrically problematic. Despite many measures of PD having good psychometric properties it is important to recognize that these are likely to be constrained by underlying problems with the classification system.

There are longstanding concerns over the utility of the DSM PD system in relation to within-disorder diagnostic heterogeneity, poor reliability and validity, high rates of comorbidity with axis I and axis II disorders and poor relation to functional impairment (Ryder, Costa & Bagby, 2007). These concerns are likely to have a considerable impact on any measure designed to assess personality disorders. Weertman, Arntz, Dreessen, van Velzen and Vertommen (2003) report that studies have identified inter-rater reliability of the SCID-II that varies from poor to excellent. Maffei et al. (1997) suggested that the SCID-II has adequate interrater reliability and internal consistency. Lobbestael, Leurgans and Arntz (2011) identified that the majority of categorical and dimensionally measured PDs demonstrated excellent inter-rater reliability.

The MCMI demonstrates good internal consistency, it is limited by a high degree of overlap between scales and test-retest reliability is comprosmised by changes in scores as a function of treatment (Wetzler, 1990). Wetzler (1990) identified that the MCMI appeared to overdiagnose axis II disorders when certain axis I disorders were present. Wetzler (1990) identified variability in the degree of compatibility with DSM-II personality disorders. O'Boyle and Self (1990) compared the PDE and SCID-II. They identified that diagnostic agreement was fair however identified

variability between diagnostic criteria for different PDs and that presence of axis I disorder may impact on scores for PDs. O'Boyle and Self (1990) suggested that a dimensional profile may be more reliable than categorical diagnoses.

The PDQ-4 was found to lack sensitivity, diagnosing more participants as having PDs than the SCID-II (Abdin et al., 2011). Poor agreement was found between the PDQ-4+ and SCID-II, identifying that the PDQ-4+ was not a substitute for a structured diagnostic interview (Fossati et al., 1998) suggesting the SCID-II may be the most robust and thorough measure of personality disorder and severity.

A further aspect of the current literature was that methodological processes were poorly specified – CONSORT diagrams were not uniformly followed, blinding was absent from all but two studies and the majority of studies were generally underpowered. Indeed two studies collapsed groups post-hoc to increase power. Therefore, any conclusions drawn are necessarily limited by these methodological weaknesses. Only 2 studies provided intention to treat analyses (Bamelis et al., 2014; Bartak et al., 2010).

The review is unable to comment on long-term follow-up due to lack of data. Therefore we repeat, on the basis of a stronger body of evidence, Simon's (2009) critique that longer follow-ups are required to capture the complexity of symptomatic and interpersonal dynamics. The majority of studies identified were carried out in

Western cultures and therefore it is unclear whether there may be significant cultural influences which impact on diagnosis and treatment of cluster C PDs.

Areas for Future Research

Given the complexity of personality disorder presentations and the high co-morbidity between PDs it may be argued that research should focus less on specific categories (reductionist) and should focus more broadly utilizing a dimensional approach. However dimensional approaches are also limited as they fail to agree on whether personality disorder traits represent extremes of normal personality or whether they are qualitatively different. Bateman and Fonagy (2000) suggested that deconstructing descriptions of personality disorders into personality style and disordered function components may be appropriate for future research. Nevertheless it is important to investigate why different patterns present and whether different treatment approaches may be more effective for particular personality difficulties. Formulation based interventions may also provide a better representation of clinical practice. Greater insight is required into psychological factors involved in Cluster C personality disorders. Within Cluster C, it is evident that DPD has received less attention than AVPD or OCPD and further research is required to examine the efficacy of treatments for this particular group. Disney (2013) emphasizes the cultural influence on personality disorder diagnosis. It is likely that there will be significant differences between individualist versus collectivist cultures. There is a need for greater exploration of PD across the lifespan, particularly since PDs are characterised as stable and enduring (Disney, 2013).

It was not always clear why studies had selected specific treatments, particularly over alternatives. Treatments were broadly based on either cognitive behavioural or psychodynamic approaches therefore suggesting little consideration of third wave approaches. Studies also failed to isolate the particular elements of treatment, which were effective. Given the complexity of presentation of those identified as experiencing personality pathology it is possible that there could be good theoretical arguments for many types of treatments. It is important for research to establish greater understanding of the mechanisms and psychological factors implicated in the development and maintenance of PDs in order to develop appropriate treatment approaches. Diedrich and Voderholzer (2015) identified that disordered attachment relationships and genetic heritability are likely to play a role in the development of OCPD emphasizing the importance of research to identify the importance of both biological and psychological factors in relation to Cluster C PD. This would provide valuable guidance and should influence treatment approaches. Given the high rates of co-occurrence between axis II disorders, it may be necessary for studies to examine treatments that have been found to be useful in other PD groups. For instance, Mentalisation Based Therapy has been found to demonstrate efficacy in BPD and therefore may be an effective intervention for Cluster C PD (Bateman & Fonagy, 2009).

Given the variability between outcome measures, it may be helpful for future studies to utilize a core battery of measures. It is also important for studies to utilize both

self-report and observer rated measures in order to get a more accurate perspective of symptoms and change.

Comorbidity between PD and axis I diagnoses may result in an exaggeration or treatment effects being obscured (Bateman & Fonagy, 2000). It is also important that research seeks to investigate the psychological mechanisms that characterise cluster C as they have done in BPD. This is necessary in order to identify treatments, which are designed to target specific psychological mechanisms as has been accomplished in BPD research.

Bateman and Fonagy (2000) suggest that future research may have to confirm personality disorder from both the perspective of the informant and patient. They suggest that the SWAP-200 designed by Westen & Shedler, (1999) may provide a valid and reliable way of measuring axis-II categories. In support of previous findings the current review acknowledges that there is a need for greater number of randomized-controlled trials as studies have often relied on uncontrolled observational studies (Bateman & Fonagy, 2000; Budge et al., 2013). Perry et al. (1999) identified the need for more RCTS and also the need for more naturalistic, observational studies of patients in psychotherapy.

Implementation of RCTs for personality disorders is difficult due to high attrition rates, cost of running long-term trials, often additional treatments are implemented

thus confounding long term follow-up, lack of specificity of psychotherapies, variability of outcome measures used, symptom changes are often measured however rarely syndrome changes are measured (Bateman & Fonagy, 2000).

McMurran et al. (2010) identified that non-completion of treatment was associated with younger age, lower educational, lower occupational levels and lower competence in skills necessary for therapy including poorer social problem solving, lower levels of persistence and greater avoidance coping. Findings suggest clients with PD do not necessarily appear to be more prone to non-completion than other groups. Nevertheless attrition rates are still high and therefore this is likely to have an impact on cost-efficacy.

There is some evidence for high dose treatment and that these gains are cost-effective (Bateman & Fonagy, 2000; Budge et al., 2013). Treatments that have demonstrated effectiveness have certain common features. They are generally well-structured, aim to increase compliance, have a clear focus, tend to be relatively long term, focus on promoting positive attachment relationship between therapist and client, allowing the therapist to adopt a more active rather than passive stance, and to be well integrated to other services available to the client (Bateman & Fonagy, 2000). This information may be helpful in he development of specific treatment protocols.

Research has increasingly been seeking to identify effective treatments, which treatments are more effective than others, the specific components of treatment that are effective (Budge et al., 2013).

Strengths and Limitations of Current Review

The current review has a number of strengths, including; a systematic and transparent search strategy, a focus on clinical data which is likely to demonstrate good ecological validity and the identification of types of psychological treatments and outcome measures of studies for Cluster C PD which is generally acknowledged as a prevalent group of disorders which has received less focus than other PDs. It was also acknowledged that studies where the main focus was not cluster C PD may not be adequately tailored to address the specific symptoms associated with Cluster C PD. The current review also has a number of limitations. A number of single case studies and dissertations were excluded from the current review. These case studies may provide valuable insight into novel psychological treatments where clear hypotheses have been developed through clinical formulations based on specific theories.

In order to reduce heterogeneity the current review excluded papers where cluster C PDs were not the primary diagnostic focus. While this has some advantages it also presents a number of challenges. Subdividing diagnostic categories helps to focus treatment more effectively (Bateman & Fonagy, 2000) however it is increasingly recognized that there is a high rate of co-occurrence between multiple PDs and axis I

disorders therefore it may be arbitrary to separate these out artificially and may fail to address the complexity of presentations where personality pathology is considered a factor. The current review fails to examine therapist characteristics, experience, expertise in specific modality on treatment effectiveness and the potential impact that these factors may have on treatment efficacy. 6 studies were excluded from the review as they described re-analysis of the studies included in the review however focused on moderators of treatment efficacy. These included a focus on working alliance, therapeutic process, self-esteem, self-compassion and interpersonal problems. It was beyond the scope of this review to explore these in-depth due to the variation and brevity of studies examining moderators of treatment effectiveness. The wide range of psychological treatments, variation between treatment, and diverse range of outcome measures used by studies prevented the application of meta-analytic techniques to the data set.

Research Implications

Building a good treatment alliance is a crucial factor in non-completion (McMurran et al., 2010). Most of the work in PD research examining ways to develop a good therapeutic alliance have focused on BPD and have identified motivational interviewing, treatment contracting, shared goal setting and the use of commitment and validation strategies as enhancing engagement. Further research is required into this within other PDs although it is likely that these are essential components within any treatment. McMurran et al. (2010) identified that research has failed to examine client's perspectives of their personality difficulties and their treatments. This is an

area that requires more focus. Particularly since in recent years there has been a movement towards greater involvement in clients within research and service design. This is an important factor in identifying other reasons for non-completion such as client's perspectives on service delivery (McMurran et al., 2010). Duggan et al. (2007) highlight the need for greater economic analysis within research to identify not only if treatments are effective but also if they are cost effective.

The bias towards BPD over other PDs in research may have an impact on clinical practice as clinicians may be less likely to identify other PDs. The lack of evidence for effective psychological treatments for Cluster C PD may also make it challenging for clinicians to select appropriate treatments which focus not only on axis I symptoms but also on personality pathology. Research is required to ascertain whether personality disorders share similar underlying characteristics and therefore whether similar treatments may be appropriate or whether different treatments are required to target particular features. For instances clients with BPD and AVPD are likely to both have problems expressing emotion but it is likely that these difficulties will be of a different nature with people with BPD being overly expressive while those with AVPD are likely to be emotionally inhibited therefore these two personality disorders are likely to require different treatment approaches.

Clinical Implications

Dimaggio (2013) emphasizes that PDs are complex and while current therapeutic approaches yield significant improvements only a minority of patients fully recover (Dimaggio, Nicolo, Semerari & Carcione, 2013). He identifies that it is unrealistic to

expect recovery after 6-18 months of weekly therapy. Dimaggio (2013) emphasises not only a need for sufficient time and resources but also that current treatment approaches fail to address the breadth and complexity of problems associated with personality disorder. He suggests that building treatment around case-formulations addressing this complexity and covering all the associated domains is necessary if we hope to yield large and enduring results. Dimaggio et al. (2013) suggest that treatment for individuals with personality disorders may benefit from a multi-method approach, where individual therapy is complemented by additional therapeutic treatments such as group psychotherapy, social skills training, pharmacotherapy and so on. This may not only address different features of personality pathology but also reduce burden of care for clinicians, reduce drop outs and yield better outcomes. In summary, this review demonstrates promising evidence for the effectiveness of psychological therapies in the treatment of Cluster C personality disorders. However, further research with greater standardisation of research design and measures is required to improve the rigour of the field. This would be required before specific treatment recommendations can be made to clinicians and treatment providers.

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3. EMPIRICAL PAPER

3.1 TITLE PAGE

Title: A case series exploring the relationship between attachment, reflective function and autobiographical memories in adults with personality difficulties experiencing distress

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3.2 ABSTRACT

Cluster C personality disorders are highly prevalent, associated with significant distress and frequently co-morbid with axis I disorders however research has primarily focused on borderline personality disorder (BPD). Research has identified psychological factors likely to contribute to the development and maintenance of BPD and has led to the development of evidence based psychological treatments. This highlights the importance of further research to identify the psychological mechanisms involved in the development of other commonly occurring personality disorders. Establishing psychological factors will help to develop theoretically driven evidence based treatments. This case series examines the relationship between cluster C personality disorders and distress, interpersonal difficulties, attachment, reflective function and autobiographical memories. 13 participants completed a range of self-report measures (personality disorders, distress and interpersonal problems) and interviews (adult attachment style, reflective function, autobiographical memories, perceptions of difficulties and use of mental health services). Participants' had extensive contact with mental health services receiving a range of both psychosocial and pharmacological treatments. Participants' reported high rates of co-occurring axis I and axis II diagnoses. Personality disorder severity, levels of distress, interpersonal difficulties, autobiographical memory specificity and reflective functioning remained stable across a 4 month time period as predicted. The majority of participants' described insecure attachment styles. Qualitative responses suggested participants' felt that their difficulties had developed in their early lives, with individuals acknowledging significant interpersonal and emotion regulation

difficulties. Future research is required in order to gain greater understanding of psychological factors involved in Cluster C Personality Disorders.

3.3 INTRODUCTION

Cluster C personality disorders have been identified as the most prevalent personality disorders in the general population (Torgensen, Kringlen & Cramer, 2001). Despite this, research has primarily focused on cluster B personality disorders and in particular, borderline personality disorder (BPD). Greater understanding of the psychological mechanisms for risk and resilience in BPD has informed the development of specific evidence based psychological therapies (Fonagy & Bateman, 2006; Karterud, 2012). Comparatively little research has explored cluster C personality disorders despite evidence that they are more prevalent than BPD, are associated with significant distress, and are frequently comorbid with axis I disorders (Dimaggio, Attina, Popolo & Salvatore, 2012a; Karterud, 2012). This research study aims to identify relationships between specific psychological factors (attachment, autobiographical memory and RF) and cluster C personality disorders to inform and guide the development of treatments for this clinical group. A developmental framework has been utilised to examine the impact of attachment, reflective function and autobiographical memory specificity on personality psychopathology, interpersonal problems and distress. Findings from BPD research suggest that attachment and early experiences play a key role in the development of personality psychopathology therefore this study seeks to establish whether similar developmental constructs are important in the development of Cluster C PDs.

Personality disorders (PDs) are defined as “an enduring pattern of inner experience and behaviour that deviates markedly from the expectations of the individual’s culture. This pattern is manifested in two or more of the following areas: cognition, affectivity, interpersonal functioning and impulse control” (DSM-IV, American Psychiatric Association, 1994). Cluster C PDs identified within DSM-IV include; dependent personality disorder, obsessive- compulsive personality disorder and avoidant PD.

Prevalence of PDs in a community sample in Great Britain have been identified as 4.4% in a community sample with obsessive-compulsive PD and schizotypal PD the most common (Coid, Yang, Tyrer, Roberts & Ullrich, 2006). Lezenweger, Lane, Loranger and Kessler (2007) identified population prevalence rates of DSM-IV personality disorder is difficult to ascertain and remains largely unknown and estimated prevalence rates of Cluster A (5.7%), Cluster B (1.5%), cluster C (6.0%) and 9.1% any PD in a general population in the United States.

Research has identified a strong co-morbidity between axis I disorders and personality psychopathology (Lezenweger et al., 2007). Coid et al. (2006) highlight that individuals are more likely to present to mental health services for treatment of co-morbid axis I disorders rather than an underlying personality disorder. Therefore it is important to consider whether treatment for axis I disorders is sufficient or whether more specific and tailored approaches would have greater efficacy.

Sanderson, Wetzler, Beck and Betz (1994) examined the prevalence of PDs among patients with anxiety disorders. They found an overall of 35% of anxiety disorder patients met criteria for a diagnosis of at least one PD. Studies have identified high prevalence and co-morbidity between cluster C PD and axis I disorders (Mulder, Joyce & Cloninger, 1994; Sanderson et al., 1994). Given high levels of co-morbidity have been identified between axis I disorders and cluster C PD it is important to incorporate axis I co-morbidity within the present study.

With regard to psychological factors in PD, evidence suggests that disturbed attachment plays an important role in the development of personality pathology (Fonagy, 1999). Early attachment experiences play a key role in the way individuals form close relationships in adulthood (Haas, Bakermans-Kranenburg & Van Ijzendoorn, 1994), operationalised as organised behavioural and representational patterns (George & West, 1999). These are defined as secure, avoidant, ambivalent and disorganised attachment patterns (Ainsworth, Blehar, Waters & Wall, 1978). Clinical symptomology may result from dysregulation of the attachment system which lead the individual to fears of abandonment, feelings of vulnerability and helplessness which may present in destructive behaviour towards the self and others, significant levels of anxiety and self-blame (George & West, 1999; Haas et al., 1994). A significant link has been recognised between attachment and BPD; however there is little research into attachment patterns in other commonly diagnosed PDs (Van Ijzendoorn & Bakermans-Kranenburg, 1996; Fossati et al., 2003).

Closely related to Attachment, reflective function (RF) is the developmental acquisition that allows a child to respond to another person's behaviour and their conception of the person's beliefs, feelings, pretence, plans and hopes which makes a person's behaviour meaningful. This enables them to develop multiple self-other representations based on their previous experiences and respond appropriately (Fonagy & Target, 1997). Researchers emphasise the important role it plays in various psychiatric conditions and in particular PDs (Dimaggio et al., 2012b; Dimaggio, Salvatore, Popolo & Lysaker, 2012c) and is likely to play an important role in understanding psychopathology, therapeutic process and the outcome of therapy in patients with PD (Gullestad, Johansen, Hoglend, Karterud, & Wilberg, 2012). Patients who have limited capacity to make sense of their own and others mental states may struggle to analyse psychological problems; presenting a challenge in psychotherapy. If this is the case then identifying whether a relationship exists between RF and non-Cluster B PD's may help to inform treatment. Greater knowledge of attachment and RF may help delineate the psychological factors in treatment that support adaptive change (Levy et al., 2006).

Autobiographical memories (ABMs) form a person's representation of themselves as unique beings and forms meaningful continuity over the lifespan and provide a context to make sense and interpret what is happening in the present moment. Individuals diagnosed with PDs have difficulty accessing specific ABMs (Dimaggio, Atlina, Popolo & Salvatore, 2012; Hauer, Wessel, Geraerts, Merckelbach, & Dalgleish, 2008). Overgeneralised ABMs have been identified as a key feature

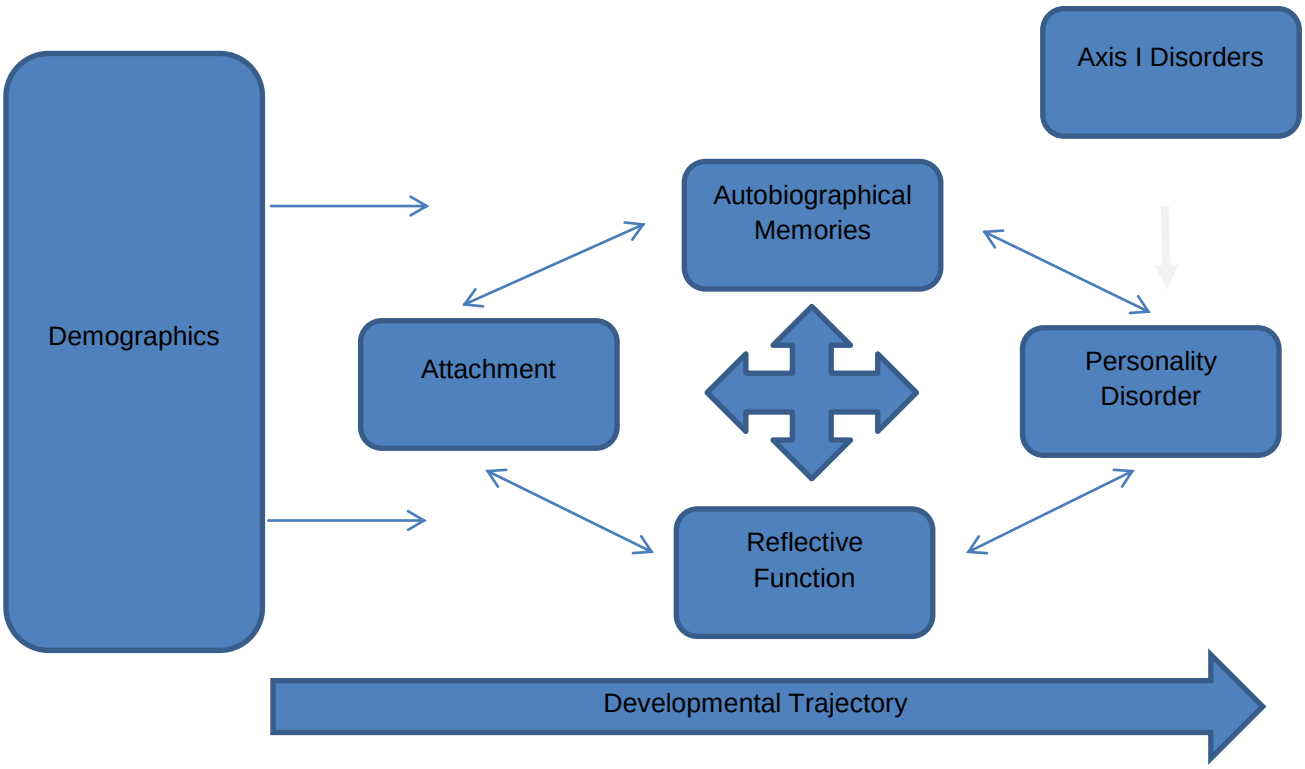
within several clinical groups (depression, post-traumatic stress disorder and BPD) (Wessel, Merckelbach, Kessels, & Horselenberg, 2001). Spinhoven, Bamelis, Molendijk, Haringsma and Arntz (2009) identified individuals with cluster C PD reported lower levels of memory specificity than the non-clinical control group and found no significant difference between dependent, avoidant and obsessive-compulsive PDs.

Enhancing ABMs through psychotherapy may help to promote improvements in metacognitive capacity such as an increased awareness of one's own and others' mental state. Novel psychological therapies such as Metacognitive Interpersonal Therapy (MIT) for patients with cluster C PD focus on developing a shared representation of the patient's mental states by eliciting specific autobiographical episodes (Dimaggio et al., 2012a; Dimaggio et al., 2012b). Exploring the impact of ABM in personality psychopathology may contribute to our understanding and influence treatment to target ABM.

Figure 1 identifies relationships between the factors discussed above. The literature highlights the lack of research into personality disorders other than BPD. The current study provides an opportunity to examine the relationship between PD and axis I disorders, distress and psychological factors which have been identified as playing a role in BPD and other severe and enduring mental health problems. In this study, two time points were used to assess short-term stability in personality psychopathology, psychological factors and distress during routine treatment to inform future research

and effect sizes, thus indicating whether tailored approaches are required in the treatment of Cluster C PD as they have been in BPD.

Figure 1. Diagram of Relationships between Psychological Factors and Personality Disorder



The primary aim of the study was to examine the relationship between attachment, reflective function and autobiographical memories on distress in people with personality difficulties. A secondary aims was to ascertain whether these constructs demonstrate short-term stability. The third aim was to explore participants' beliefs about the factors that contributed to the development of their difficulties and their experiences of treatment. A number of hypotheses were made:

1. Demographic characteristics will highlight that this group present with long term but sporadic engagement with mental health services, receiving a wide range of diagnoses, psychopharamacological and psychosocial treatments.
2. Personality disorder severity and personality disorder characteristics will remain stable across two time points, 4 months apart for patients receiving routine treatment.
3. Participants identified as primarily meeting criteria for non-Cluster B personality disorders will report high levels of co-occurring anxiety, depression and other personality disorders.
4. Participants with non-Cluster B personality psychopathology will demonstrate high level of distress and interpersonal difficulties, with no significant differences over a 4 month time period.
5. Participants with non-Cluster B personality psychopathology will exhibit insecure adult attachment patterns/ greater attachment avoidance, with no significant differences across two time points, 4 months apart.
6. Participants with non-Cluster B personality disorders will report poor memory specificity and a larger proportion of overgeneralised memories.
7. Lower reflective function will be negatively associated with greater personality psychopathology.

3.4 METHOD

Participants

Participants were recruited from Community Mental Health Teams (CMHT) in the North East of Scotland. Clinicians, predominantly psychiatrists from the CMHT, assisted in identifying eligible participants according to the inclusion and exclusion criteria, specified below. Cluster C personality disorders are not routinely diagnosed within the service. This, alongside the high rates of co-occurring PDs meant that it was necessary to broaden the inclusion criteria, however cluster B personality disorders are diagnosed within the service and therefore the exclusion criteria aimed to reduce the risk of cluster B participants being included in the sample. Clinicians were responsible for inviting participants to take part and asking them to return an opt-in form if they wished to meet the researcher to discuss the study in further depth. Once opt-in forms were returned the primary researcher contacted the participants to invite them to take part in the study and to arrange to meet. The study received review and ethical approval (appendix M) from the North of Scotland Research Committee (REC: 14/NS/022), managerial approval from the local Research and Development Department in Grampian (appendix N) and Caldicott approval (appendix O).

Participants were referred based on the following inclusion criteria and exclusion criteria:

Inclusion Criteria

- Adults (18 years +) who have personality difficulties

- Currently receiving treatment from the Community Mental Health Team

- English speakers

Exclusion criteria:

- Non- English speakers

- Individuals currently experiencing psychosis

- Individuals with a learning disability

- Individuals presenting with high risk of suicidality

- Individuals who are identified by referring clinicians as presenting with personality difficulties consistent with Cluster B personality disorders

- Individuals who are unwilling or unable to provide informed consent

Design

A case series design was used to assess stability of personality difficulties and psychological factors across two time points. Case series provide an opportunity to explore individual participant data, heterogeneity, individual differences and provide

valuable insight into whether findings are consistent with different theoretical perspectives. Case series also allow greater flexibility in selection criteria (Rapp, 2011), which may be more representative of clinical populations. This is the first study to explore the relationship between attachment, RF, autobiographical memory, axis I co-morbidity and non-Cluster B personality disorders. There is no good evidence on attachment in non-Cluster B personality disorder using a four-category model of attachment.

As a case series the analyses conducted in this study were exploratory, demographic information was gathered to describe characteristics for this client group illustrating their participation in mental health services. Paired sample t-tests were utilised to examine the stability of measures over time and correlations to establish the relationship between personality disorder severity and psychological factors. A semi-structured qualitative interview was coded using thematic analysis to gain insight into participants' understanding of their difficulties and their experience of services.

Measures

Quantitative Measures

Personality Difficulties:

Personality Disorder Measures

The Personality Disorder Questionnaire 4 (PDQ-4, Hyler, 1994) is a personality measure consisting of 99 true/false items designed to screen for the presence or absence of DSM personality disorders. While the PDQ is not considered an adequate substitute for a structured interview assessment it has demonstrated high sensitivity and moderate specificity for screening axis II disorders (Hyler et al., 1990). With permission, the researcher examined the participants' most recent volume of psychiatric notes to verify diagnosis and whether participants met criteria on The Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II, First, Gibbon, Spitzer, Williams & Benjamin, 1997).

The Structured Clinical Interview for DSM-IV Personality Disorders (SCID-II)

The SCID-II (First et al., 1997) is a widely used semi-structured clinical interview, which assesses DSM-IV (American Psychiatric Association, 1994) criteria for personality disorders. Studies have established that the SCID-II has adequate internal consistency (Maffei et al., 1997). Psychiatric case note review was used to verify diagnosis and whether participants met criteria on the Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II, First et al., 1997). This was used to provide more robust insight into whether participants met the criteria for Cluster C Personality Disorders and whether this was consistent with results on the PDQ (PDQ, Hyler, 1994).

Axis I Disorders: Depression, Anxiety and Stress Scale (DASS, Lovibond & Lovibond, 1995)

The DASS is a 42-item self-report questionnaire consisting of three scales measuring negative emotional states of depression, anxiety and stress. The three scales consist of 14 items divided into subscales of two to five items. Respondents are asked to indicate their answers on a 4-point scale indicating the severity or frequency they have experienced each condition over the past week. The depression scale assesses hopelessness, devaluation of life, self-deprecation, lack of interest, anhedonia, inertia and dysphoria. The anxiety scale assesses autonomic arousal, skeletal muscle effect, situation anxiety and subjective experience of anxious affect. The Stress scale aims to assess sensitivity to levels of chronic non-specific arousal such as difficulty relaxing, nervous arousal, becoming easily upset or agitated, irritability and impatience. The DASS-42 has demonstrated adequate to excellent reliability and concurrent, convergent and discriminant validity in non-clinical, community and clinical samples (Crawford & Henry, 2003; Martin, Bieling, Cox, Ennes & Swinson, 1998).

Attachment: Adult Attachment Projective (George & West, 2001)

The AAP is an adult attachment classification system to identify four major adult classification groups; secure, dismissing, preoccupied and unresolved through evaluations of three dimensions; content, discourse and defense processing. Individuals are asked to respond to a set of seven attachment related drawings and one neutral scene. The scenes include a range of situations likely to activate attachment including illness, separation, abuse and solitude (George & West, 2001). The pictures are presented in the same order each time; the neutral image is of two

children playing ball and is then followed by the seven attachment related images; a child looking out of the window, a man and woman facing one another with suitcases nearby, a young person sitting on a bench, a child and woman facing each other at opposite ends of a child's bed, a woman and child watching someone being put on an ambulance stretcher, a man standing at a grave and a child standing in a corner with their arms out. Participants are shown the pictures one at a time and asked to tell the researcher a story about what's going on in the picture. The researcher must follow the script as outlined in the manual. A number of questions are asked to prompt the participant, these include; *what do you think led up to that scene, what are they thinking or feeling and what do you think might happen next*. The responses are transcribed and coded as representing one of the aforementioned attachments styles; secure, dismissing, preoccupied and unresolved. The AAP demonstrates strong inter-judge reliability and convergent validity with the Adult Attachment Interview, the gold standard measure of adult attachment (George & West, 2001). The AAP demonstrates significant advantages over the AAI. It is much shorter to administer (30 minutes) and takes less time to transcribe and code. Training is required to analyse and code transcripts. George and West (2001) suggest the AAP is effective in analysing the four attachment groups. The AAP is a cost effective and timely alternative to the Adult Attachment Interview.

<u>Reflective Function: Computerised Text Analysis Version of the RF Assessment System (CRF, Fertuck, Mergenthaler, Target, Levy & Clarkin, 2012)</u>

Fertuck et al. (2012) developed a computerised text analysis measure of reflective functioning by analysing responses to the 6 demand questions adapted from the Adult Attachment Interview (AAI, George, Kaplan & Main, 1984/1985/1996). A Marker Approach was utilised by Fertuck et al. (2012) based on the work of Mergenthaler and Bucci (1999) to develop a coding system for verbal data into a computerised text scoring method. This approach treats word markers as operational indicators of a psychological state or capacity by identifying a set of words which are verbal indicators and therefore identifies the linguistic markers of RF speech (Fertuck et al., 2012). Fertuck et al. (2012) identified unique linguistic indicators of high and low RF speech that can be utilised to evaluate levels of RF. A computer program calculates the frequency of high and low RF words. The CRF was found to have criterion validity and Fertuck et al. (2012) suggest that a Marker Approach indicates that a CRF dictionary correlates with RF ratings in both clinical and non-clinical samples. Fertuck et al.'s (2012) development of a computerised, text analytic approach provides a prototype CRF dictionary which can be utilised by other researchers to explore RF. This method of analysing RF was employed within the current study as an efficient way to explore RF in relation to personality difficulties and other psychological factors.

Autobiographical Memories: AMT Autobiographical Memory Test (AMT, Williams & Broadbent, 1986)

The AMT is used to identify overgeneralised autobiographical memories in depression and trauma (Griffiths, Kleim, Summer & Ehlers, 2012). The AMT (Williams & Broadbent, 1986) comprises of presenting ten cue words to participants. Five of the words are pleasant (happy, safe, interested, successful and surprised) and five words are unpleasant (sorry, angry, clumsy, hurt and lonely); these are presented alternately. Participants are asked to retrieve a specific personal memory in response to each cue word. If participants struggle to retrieve a specific memory they were prompted by the examiner to do so by being asked directly if they could remember a specific time or episode. If the participant could not recall a memory within the time the examiner recorded a time of 60s and proceeded to the next item. After each memory is recorded the participant is requested to provide a date for each of the memories as accurately as possible. Responses to the cue words are then coded as either specific or generalised. Memories are specific if they correspond to an event situated within a specific time and place. Griffith et al. (2012) examined the psychometric properties of the AMT in a clinical population. They identified the AMT measures one factor of memory specificity and yielded good reliability (estimate scores of .72). Griffith et al. (2012) highlighted the importance of further studies examining the AMT in other clinical populations as they focused on trauma survivors and subgroups with and without a lifetime history of major depressive disorder and participants with current post-trauma diagnoses of major depressive disorder and or acute stress disorder versus those with neither disorder.

Measures of Distress:

Inventory of Interpersonal Problems – IIP-32 (Barkham Hardy &Startup, 1996)

The IIP-32 is an abbreviated version of the Inventory of Interpersonal Problems (IIP). The IIP-32 is a measure of difficulties people have with interpersonal relationships with a high score indicating interpersonal problems are evident and reflects a poor understanding of how feelings develop in relationships. The IIP-32 consists of thirty two self report items. Respondents are asked to indicate their answers on a 5 point likert scale from 0 (not at all) to 4 (extremely). Barkham et al. (1996) identified eight factors within the IIP-32 consisting of: difficulty being assertive, sociable, supportive, too dependent, too caring, too aggressive, difficulty being involved and being too open. The IIP-32 can also be coded on a 2-factor scale denoting Avoidance and Dependence interpersonal problems (MacBeth, Schwannauer, & Gumley, 2008). The IIP-32 demonstrates acceptable reliability and internal consistency (Barkham et al., 1996).

Qualitative Measure

Semi-structured Qualitative Interview

A semi-structured interview (appendix L) was included at final appointment to gain information from participants' perspective on the development of their difficulties, their experience of treatment and any changes they experienced over the 4 month gap from completing the measures at time point 1. Open-ended questions were developed by the researcher to elicit participants' perspectives. These were developed in

relation to the literature, developmental framework and study aims. They aimed to gather information on whether participants' felt their difficulties were longstanding and related to early experiences, whether their difficulties were persistent and relatively stable and whether their difficulties impacted on their interpersonal relationships.

Demographic information

A demographic information sheet was created to capture relevant data on age, education, self-reported ethnicity, marital status and employment. Further demographics were obtained from participants' most recent volume of psychiatric notes. This included duration of contact, type and number of professionals involved in their care, psychological treatments, medications, diagnoses, alcohol/drug use, interpersonal problems, abuse, psychiatric admissions and living situation.

Procedure

Clinicians from the CMHT identified and invited participants to take part by asking them read over a letter and information sheet on the project and to complete and return an opt-in form. Once the opt-in form was returned, the primary researcher contacted participants by telephone to invite them to meet to discuss their participation in the study. The primary researcher met with participants to answer any questions they had about the study and to take informed consent. Participants were asked to complete the above self-report measures and structured interviews

over a number of sessions at two time points, 4 months apart. Interviews were audio recorded for transcription. Time point 1 measures completed included: PDQ-4, IIP, DASS, AMT, AAP and 6 demand questions from AAI (RF) and time point 2 measures included: PDQ-4, IIP, DASS, AMT, AAP, 6 demand questions from AAI (RF) and semi-structured qualitative interview on participants' perspectives of their difficulties and experience of seeking help. After each session patients were given an opportunity to debrief given the sensitive nature of some of the material. Participants' psychiatric notes were examined in order to ascertain SCID-II diagnosis. Measures were scored and interviews were transcribed for analysis by the primary researcher. The Adult Attachment Projective was coded by the supervising clinical psychologist involved in the study (AM) who had received training in administration and coding of the AAP (AAP Training Institiute, Padova, January 2013. Trainer: Carol George, PhD).

Power Calculation

As a case series, analyses were exploratory and aimed to generate effect sizes for a future larger study. A power calculation was carried out based on a plan to complete linear regression. A power level of 0.8, an alpha of 0.05 and a medium effect size with 4 predictors (axis I disorders, attachment, RF, ABM) identified that 27 participants were required to achieve adequate power for this study.

Analysis Strategy

Quantitative data was analysed using IBM SPSS Statistics Version 21. A range of preliminary histograms and Q-Q plots were utilized to examine the distribution of the sample prior to further analysis using Kolmogorov-Smirnov (K-S tests) presented in appendix J. Significance values less than .05 indicates a deviation from normality (Fields, 2012). Positive values of skewness indicate too many low scores while negative values indicate a build up of high scores. Scores were considered alongside histograms to ascertain whether data was parametric or non-parametric and to inform further inferential tests. The majority of measures were normally distributed enabling the use of parametric tests. The IIP-32 subscale affiliating interpersonal behaviours and low reflective function were skewed at time point 2 and therefore non-parametric tests were utilised for analyses involving these measures. Descriptive statistics, t-tests, Wilcoxon signed rank tests and correlations were carried out to explore the quantitative data while inductive thematic analysis was utilised to identify emerging themes from participants' qualitative responses to the semi-structured interview.

3.5 RESULTS

Participant flow is demonstrated in appendix H. Clinicians identified and invited 55 participants to take part however only 14 participants returned opt-in forms and consented to take part in the study. 1 participant dropped out of the study before completing time point 1 data. Sample demographics are presented in table 1.

Table 1. Sample Demographics

	N (% of total sample)	Mean (*SD*)	Median (range)
Gender			
Male	4(28.6)		
Female	10(71.4)		
Age		49.1 (8.7)	49 (33-65)
Self reported ethnicity			
White British	13(92.9)		
Other	1(7.1)		
Educational Attainment			
Left school before age 16	3(21.43)		
High school – standard grades or equivalent	3(21.43)		
High school - highers or equivalent			
College	0		
University	8(57.14)		
	0		
Marital Status			
Married	5(35.7)		

Civil Partnership	0
Living with Partner	1(7.1)
Single	4(28.6)
Divorced	4(28.6)
Separated	0
Widowed	0
Employment Status	
Full-time employment	3(21.4)
Part-time employment	2(14.3)
Student	0
Voluntary work	0
Unemployed	9(64.3)

Hypothesis 1 aimed to investigate participant demographics, to confirm whether participants had long term but sporadic engagement with mental health services and the number and range of diagnoses that participants had received. It also sought to explore whether participants had received multiple psycho-pharmacological and psychosocial treatments.

The average number of years since initial contact with mental health services was *M* = 11.9 (range 1-40). Participants had had contact with an average of 3.8 professionals during their contact with services this included psychiatry, nursing, occupational therapy, social work, psychology and psychotherapy. From clinical notes it appeared that many struggled to fully engage in treatment. Commonly documented treatments are identified in table 2. It is likely that participants may also have been involved in

receiving support from voluntary organisations. From psychiatric notes it was clear that at least 2 participants had received support from other organisations.

Table 2. Types of treatments participants had received as documented in psychiatric notes

Treatment	Number of participants
Anxiety management	11
Psychology	6 (1 assessment only, 1 group)
Assertiveness training	5
Psychotherapy	4
Counseling	4 (1 in relation to cancer diagnosis)
Exposure work	3
Self help	1

Participants had taken a range of different medications in relation to their mental health difficulties (M = 5.2 medications, range 1-9). This included a variety of different types of medications; the most frequently prescribed were antidepressants and anxiolytics (appendix I).

Participants had received a range of different diagnoses over their time within mental health services. Table 3 provides details of the types of diagnoses considered.

Table 3: Diagnoses considered for participants in their psychiatric notes

Diagnoses	Number of Participants
Depression/Depressive disorder	14
Anxiety/ Anxiety disorder	10
Social anxiety	8
Anxious avoidant PD	8
Dependent PD/ traits	4
BPD/ traits	3
Panic	3
GAD	3
Agoraphobia	2
Eating disorders	2
PTSD	2
OCD	1
Cyclothymia/ cyclothymic disorder	1

All participants had received multiple diagnoses or had several diagnoses considered during their time with mental health services, with high rates of axis I disorders supporting hypothesis 3 that there would be high rates of co-occurring axis I disorders.

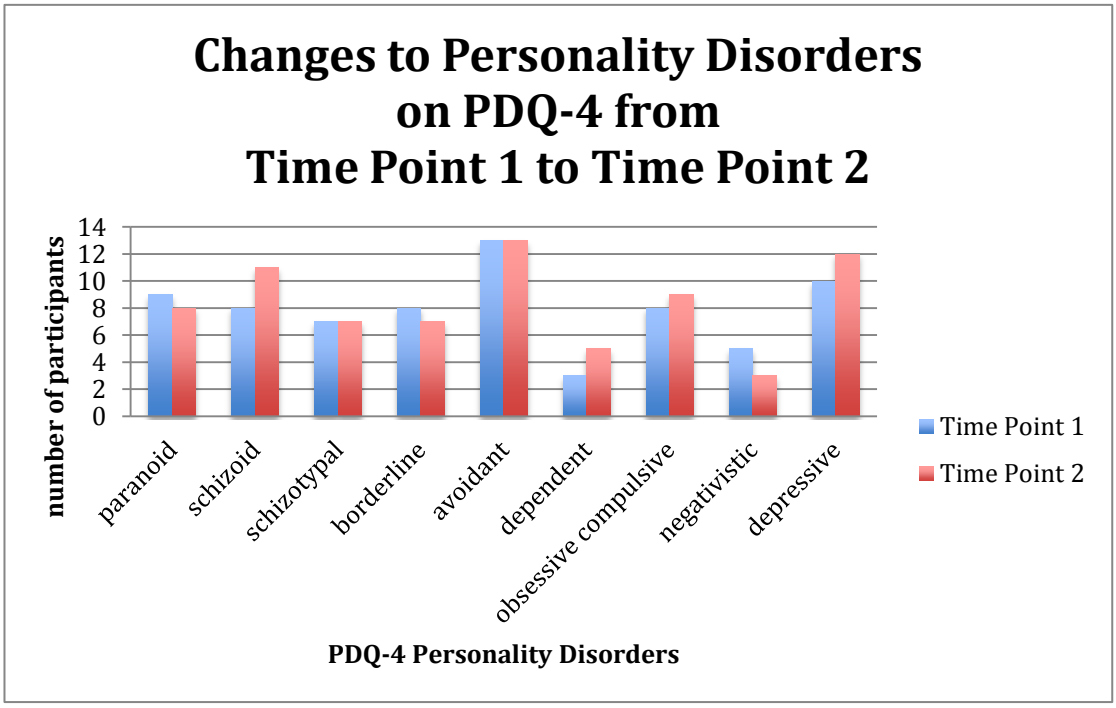
Quantitative Analyses

Personality Disorder Severity

Hypothesis 2 sought to identify whether PD severity was table across two time points. No participants met criteria for antisocial, histrionic or narcissistic personality disorders on PDQ-4 at either time point.

Changes to clinically significant PD scales on the PDQ-4 are illustrated in figure 3. Appendix K presents changes to clinically significant PDs on the PDQ-4 for individual participants. From figure 3 it can be observed that all participants scored positively for AVPD at both time points. All participants met criteria for more than one PD at time point 1 or 2, indicating high rates of co-occurrence between PDs. Participants met criteria for an average of 5.5 personality disorders (M = 5.5, SD = 2.2) at time point 1 and 5.8 (M = 5.8, SD = 2) at time point 2. This confirms hypothesis 3 that there would be high co-occurrence of axis II disorders. Evidence from clinical notes using the SCID-II was able to confirm AVPD for 9 of the 13 participants while there was not enough evidence in the notes to confirm the remaining 4 participants. No participants met criteria for pure cluster A, B or C at both time points.

Figure 2. Changes to number of participants meeting Personality Disorder



While changes in personality disorders are evident from the graph it was necessary to examine this further to test the hypothesis that there would be no significant difference between PD severity (PDQ-4 total score) from time point 1 to time point 2. A paired sample t-test identified that on average, PDQ-4 total scores from time point 1 (M = 44.2, SD = 8.2) to time point 2 (M = 43.6, SD = 9.2) demonstrated no significant difference: 95% CI (-3.28, 4.53), $t(12) = 0.282$, $p = 0.783$, $d = 0.08$ demonstrating a small effect size according to Cohen (1988) definition of effect sizes as small (0.2), medium (0.5) and large (0.8).

Distress and Interpersonal Functioning

In order to examine hypothesis 4 that participants with cluster C PDs would exhibit high levels of distress and difficulties with interpersonal functioning and to establish whether these would change from time point 1 to time point 2, a series of paired sample t-tests were carried out. As demonstrated in table 4, no significant difference was evidence between time points on the DASS depression, anxiety or stress scales.

Table 4. Paired sample t-tests for DASS subtest scores

	Time Point 1		Time Point 2						
Outcome measure	*M*	*SD*	*M*	*SD*	*N*	*df*	*T*	*p*	Effect size (*d*)
DASS depression	26	13.2	28.7	10.7	13	12	-1.188	0.258	0.3
DASS anxiety	22	11.8	23.8	10.4	13	12	-0.55	0.593	0.2
DASS stress	27.2	11.2	27.9	6	13	12	-0.26	0.799	0.006

Based on Cohen (1988) effect sizes: small (0.2), medium (0.5), large (0.8)

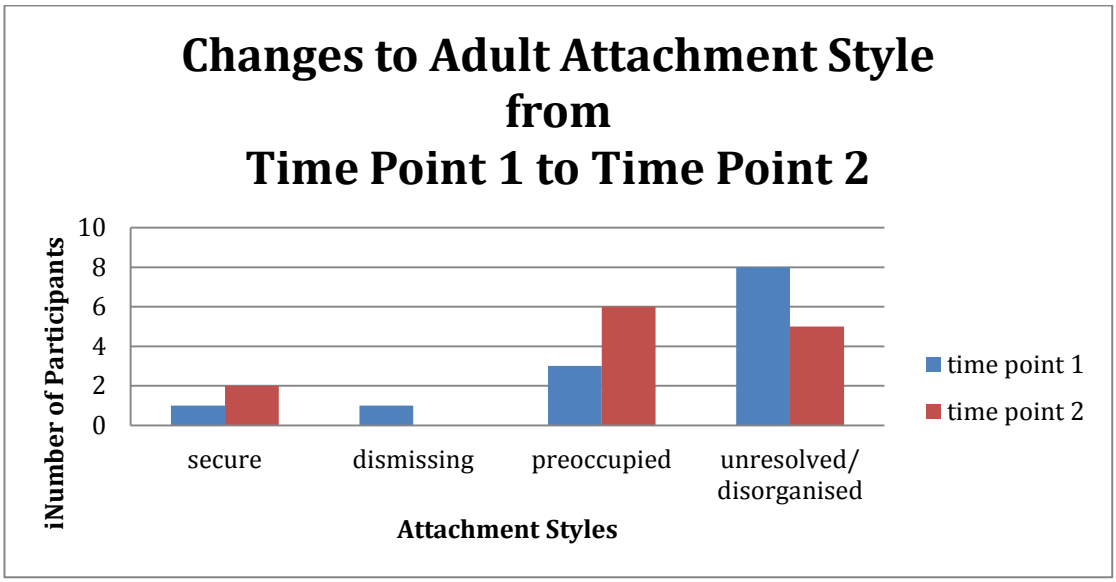
Interpersonal problems were measured using the IIP-32, it was predicted that there would be no significant changes between time point 1 and 2 and that interpersonal problems would remain stable across time. This was confirmed using a paired sample t-test to examine the distancing interpersonal problems, time point 1 (M = 26.2, SD = 10.5) to time point 2 (M = 28.3, SD = 10.5), $t(12) = -1.089$, $p = 0.297$, effect size $d = 0.3$ demonstrating no significant difference and a small effect size.

While a Wilcoxon signed-rank test was applied to the IIP-32 subscale affiliating interpersonal behaviours confirming the null hypothesis that there was no significant difference between time point 1 (*Mdn* = 40), *T* = 13 and 2 (*Mdn* = 43), *T* = 13, *p* = 0.593, *d* = 0.2.

Attachment and Reflective Function

It was predicted in hypothesis 5 that participants would present with insecure attachment styles and that adult attachment status would be stable across the two time points. Changes to attachment status are illustrated in figure 3.

Figure 3. Changes in Adult Attachment Style



No participants had secure attachment styles at both time points, which supports the hypothesis that participants would present with insecure attachment styles. However 7 participants attachment status remained stable over time points while 6 were

different suggesting that attachment style was not stable at both time points. Individual changes to attachment status are presented in appendix K alongside personality disorder diagnoses.

Changes to reflective functioning from time point 1 to time point 2 are illustrated in table 5. As indicated by the normality tests CRF low were skewed and therefore a Wilcoxon signed rank signed-rank test was applied confirming the null hypothesis that there was no significant difference between time point 1 (*Mdn* = 194), *T* = 13 and 2 (*Mdn* = 150), *T* = 13, *p* = 0.087, *d* = 0.5. These findings support the hypothesis that there would be no significant difference in RF across time.

Table 5. Changes to reflective functioning from time point 1 to time point 2

	Time Point 1		Time Point 2						
Outcome measure	*M*	*SD*	*M*	*SD*	*N*	*df*	*t*	*p*	*d*
CRF total count	623.2	491.5	486	485.9	13	12	1.865	0.087	0.5
CRF high	353.5	281.3	270.1	278.3	13	12	1.782	0.100	0.5

In order to examine the relationship between personality disorder severity and axis I disorders, interpersonal problems and reflective function correlational analyses were conducted (table 6).

Table 6. Relationship between Personality Disorder Severity and psychological factors

Time point 1		*r*	*Sig. (2-ed)*	Effect size	Time Point 2		*r*	*rS*	*Sig. (2-tailed)*	Effect size
PDQ-4 total score	DASS depression	.237	.435	Small	PDQ-4 total score	DASS depression	-.186		.543	small
	DASS anxiety	.459	.114	medium		DASS anxiety	-.140		.648	small
	DASS stress	.418	.156	Small		DASS stress	-292		.334	small
	IIP-32 Affiliating interpersonal behaviours	-.160	.603	Small		IIP-32 Affiliating interpersonal behaviours		-.796**	.001	medium
	IIP-32 Distancing interpersonal behaviours	.485	.093	Small		IIP-32 Distancing interpersonal behaviours	.175		.566	small
	CRF total	-.720**	.006	medium		CRF total	-.410		.164	small
	CRF high	-.757**	.005	medium		CRF high	-.408		.167	small
	CRF low	-.699**	.008	medium		CRF low		-.493	.087	Small

*Correlation is significant at the 0.05 level (2 tailed)

** Correlation is significant at the 0.001 level (2 tailed)

r is used to indicate Pearson's correlations (parametric)

rS refers to Spearmans Rho correlations (non-parametric)

Significant relationships were identified in table 6 between PDQ-4 severity and RF total, high and low at time point 1 but not at time point 2. As this differed between time points it is not possible to confirm hypothesis 7 that lower RF is negatively

associated with greater personality psychopathology. There was a significant relationship between PDQ-4 total scores of severity and IIP-32 subscale affiliating interpersonal behaviour at time point 2.

Autobiographical Memory

Hypothesis 6 suggested that people with cluster C PD would report a greater number of overgeneralised memories than specific memories. Table 7 illustrates paired sample t-tests for changes on the AMT. It was apparent that participants did report more specific memories than generalised memories and that this was stable across time points. Although not formally analysed, observation of the narratives indicated that 8 out of 13 participants reflected on their home as a place where they felt safe.

Table 7. Changes to autobiographical memories

Time point 1	*M*	*SD*	Time point 2	*M*	*SD*	*N*	*df*	*T*	*P*	Effect (*d)*
Specific memories	6.3	1.5		6.07	1.6	13	12	0.433	0.673	0.121
Generalised memories	2.5	1.5		3.2	1.6	13	12	-1.214	0.248	0.337
No memories	1.2	1.2		0.7	0.3	13	12	1.196	0.255	0.246
Total response time	77.2	31.5		87.4	45.9	13	12	0.948	0.362	0.264
Total response	39.9	15.7		57.3	41.7	13	12	-1.444	0.174	0.552

time specific memories									
Total response time generalized memories	16.2	14.7	20.6	13.3	13	12	-0.715	0.488	0.195
Total response time no memory recalled	21.2	25.7	9.5	14.3	13	12	1.412	0.183	0.394
Total response time positive cue words	46.8	26.2	46	29.6	13	12	0.087	0.932	0.02
Total response time negative cue words	30.3	12.1	41.4	23.3	13	12	-1.864	0.087	0.518

Based on Cohen (1988) effect sizes: small (0.2), medium (0.5), large (0.8)

Qualitative Analyses

Semi-Structured Qualitative Interview Responses

Using inductive thematic analysis, responses to the semi-structured qualitative interview were examined and a series of themes were extracted. The semi-structured qualitative interview aimed to gather information from participants' on their beliefs about when their difficulties developed and the factors that contributed to the development of these difficulties. It also sought to identify their experience of mental health service, whether they felt there had been any changes in their difficulties between the two time points and how they saw themselves in the future.

Theme 1: Early development and prolonged experience of mental health difficulties

Theme 1 focused on participants' beliefs that their difficulties had developed in childhood, adolescence or young adulthood. Participants identified a range of factors, which had contributed to the development of their difficulties including loss of a family member or close friend (participants 5, 7, 11, 12), abusive parental or other relationships (1, 3, 4, 8), being bullied at school (6) or work (13), relationship breakdowns (7), ill health (11, 12) and negative school experiences (10).

Theme 2: Difficulties Regulating Emotions

Participants identified a range of difficulties managing emotions. This comprised of subthemes of avoidance and emotional inhibition. Participants (3, 4, 8, 9, 12 14) described struggling to manage emotions and avoiding dealing with them, illustrated by this quote: 'my way of dealing with stress is to try and block it off.' (Participant 3, page 2, line 5). Emotional inhibition can also be demonstrated ' I tend to bottle them all up' (participant 14, page 1, line 10) and difficulty sharing emotions with others illustrated by the quote below:

> '…it's like a mask, I can put a front on and no one would really know unless the tears come but underneath it's bubbling away and then the minute I'm on my own or get the chance to release it, that's when it all comes flooding out.' (participant 12, page 1, lines 20-23).

Theme 3: Coping Strategies

Participants identified a range of different coping strategies to manage their difficulties including; self harm, alcohol, reliance on medication, social withdrawal and either controlling their eating or over eating. Participant 11 described their difficulty managing their emotions and coping though social withdrawal: 'It's difficult. Sometimes you try and hide them (emotions), that's when you want to be on your own' (participant 11, page 1, line 18).

Theme 4: Interpersonal Difficulties

Participants described a range of interpersonal problems, including difficulty forming relationships with people (participants 3, 4, 9, 10). Participants made particular reference to the challenge of meeting new people ('… if I meet somebody I'll keep them at a distance…' participant 7, page 2, line 22) and difficulty being assertive ''I'm too agreeable to other people' (participant 5, page 1, line 16).

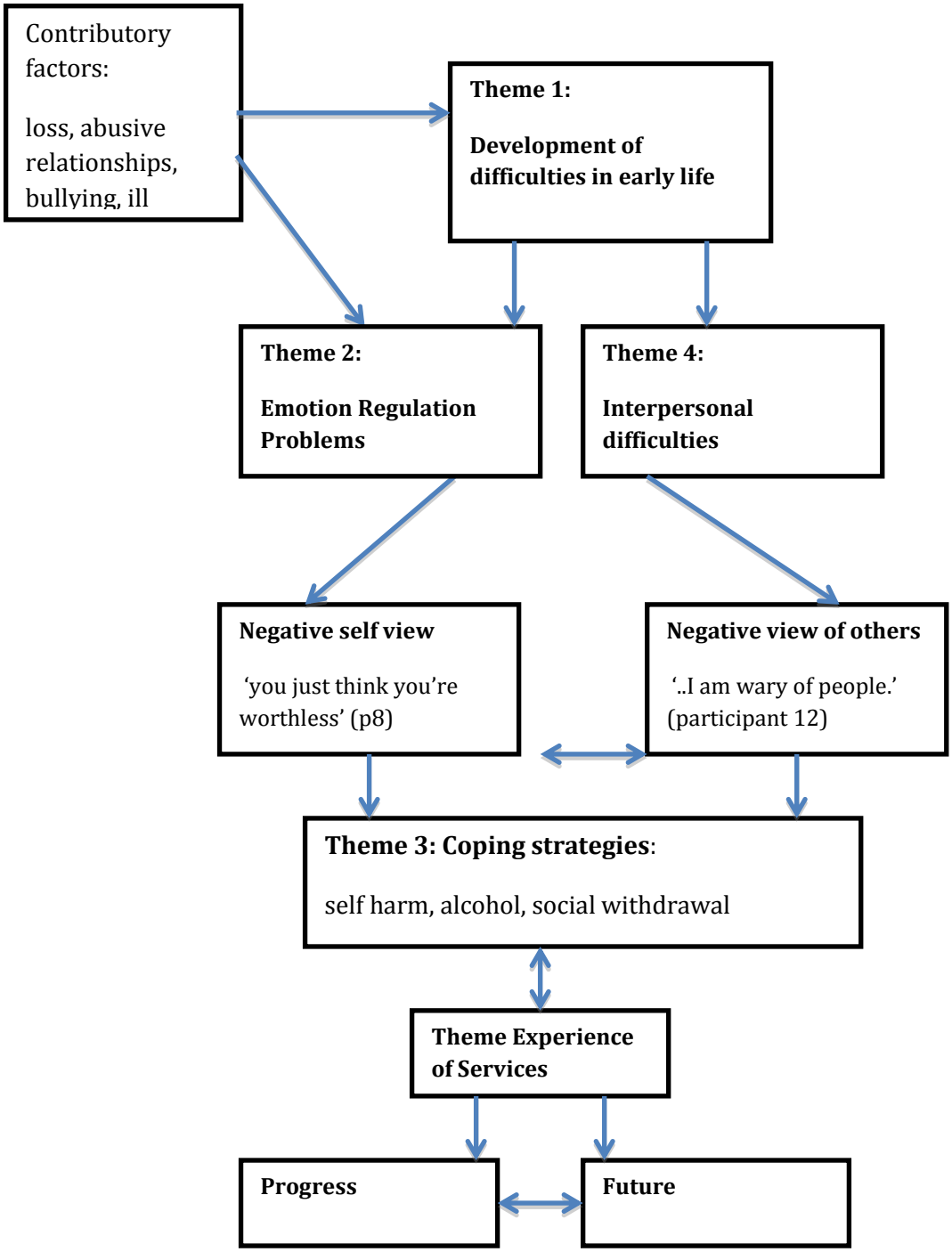
Participants described negative self-views (participants 1, 4, 6, 8, 9, 12, 14) and negative views of others (participants 1, 4, 7, 12). This included a sense of lack of confidence, difficulty being themselves, feeling worthless and worrying that others would judge or evaluate them negatively. Several participants also referred to difficulty trusting other people.

Theme 5: Experiences with Services

All participants reported positive features of treatment with mental health services such as feeling well supported and understood. Equally participants highlighted the challenges of receiving treatments which address all aspects of their difficulties and awareness of limitations on time and resources. Participants 3 and 9 emphasised the value they had found from treatment but also the challenge of putting the advice and strategies into practice and concerns that professionals may not think that they were not making enough progress. Participant 13 also raised frustration with the high turn over of staff and having to explain their history multiple times.

Participants appeared to report contradictory responses regarding their perceptions of progress. A large number of participants (1, 3, 6, 7, 8, 12, 13) described positive experiences such as feeling happier, stronger, more confident, reducing their drinking or increased socializing or occupational endeavours. 2 participants reported no change while 2 reported increased anxiety. Several participants described their experience of ups and downs (1, 6, 8, 13) and recognizing that it may take time for them to experience progress and that this may be slow and that there may be some areas that they continue to struggle with. Many were hopeful that in the future they would be happier and continue to progress (participants 1, 3, 5, 6, 7, 8, 11, 13).

Figure 4: Relationship between qualitative themes



3.6 DISCUSSION

This study aimed to examine the relationship between attachment, reflective function and autobiographical memories on distress in people with personality difficulties. A number of hypotheses were addressed in order to examine the characteristics of participants and their involvement with mental health services, whether personality disorder severity, distress, attachment, reflective function and autobiographical memories were stable psychological factors. A case note review highlighted the chronicity of difficulties in this client group and the range of both psychopharmacological and psychosocial treatments undertaken in treatment. It also highlighted the range of both axis I and axis II diagnoses document in clinical notes, supporting Coid et al. (2006) suggestion that individuals may be more likely to receive treatment for axis I disorders rather than underlying personality disorder**.** The high rates of both axis I and axis II diagnoses in clinical notes highlights the complexity of this client group and supports previous research findings which suggest high rates of co-occurrence (Lezenweger et al., 2007; Mulder et al., 1994; Sanderson et al., 1994).

The study aimed to explore whether personality psychopathology was stable over a short time period. While overall personality disorder severity was not significantly different over time (hypothesis 2) there was some evidence of changes to the specific personality disorders that individual participants met criteria for at different time points which may be consistent with emerging evidence that personality disorder characteristics are less stable than initially believed (Duggan, Huband, Smailagic,

Ferriter, & Adams, 2007). It was evident that there were high rates of co-occurrence between different personality disorders supporting hypothesis 3.

The study aimed to explore the short-term stability of psychological factors, levels of distress, interpersonal difficulties, autobiographical memory specificity and reflective functioning across a 4 month time period. As predicted no significant difference was identified between these constructs over a 4 month period. Hypothesis 5 was partially supported suggesting that the majority of participants did indeed exhibit insecure attachment styles however these appeared to lack stability. Unfortunately it was not possible to carry out any statistical analyses to ascertain whether these changes were significant. These findings support the need for further exploration into the impact of attachment in cluster C utilising a developmental framework to examine whether clinical symptomatology results from dysregulation of the attachment system (George & West, 1999; Haas et al., 1994). In contrast with previous findings (Spinhoven et al., 2009), there did not appear to be evidence of a greater proportion of over-generalised autobiographical memories in this group (hypothesis 6). While this may relate to the measure used in this study or the small sample size, it is important to consider that people with difficulties consistent with cluster C personality disorder may not demonstrate impaired autobiographical memory specificity. Autobiographical memory specificity may have been influenced by the presence of co-occurring axis I symptomatology.

Correlations were employed to explore whether there was a relationship between PD severity and distress, interpersonal difficulties and reflective function at the two time points and to ascertain whether lower RF would be negatively associated with greater personality psychopathology (hypothesis 7). These results were inconsistent across the two time points, whereby PDQ-4 severity and RF scores were correlated at time point 1 but not at time point 2. One possible reason may have been that participant's responses were briefer at the second time point as they had already responded at the initial time point and did not feel the need to go into as much detail therefore brevity of responses may have limited the opportunity to demonstrate RF. A significant relationship was found between PDQ-4 total scores of severity and IIP-32 subscale affiliating interpersonal behaviour at time point 2 which may reflect normal variation in scores.

Finally, a semi-structured qualitative interview was carried out to gain participant's perspectives on the development and maintenance of their difficulties and experience with services. Using thematic analysis, themes emerged suggesting that participants felt that their difficulties had developed in their early lives, recognising significant interpersonal and emotion regulation difficulties. Participants demonstrated considerable psychological insight however some of the responses suggested a belief that these difficulties were likely to be difficult to fully resolve.

This study aimed to utilise a developmental framework to examine the relationship between attachment, reflective function and autobiographical memory specificity on

distress in people with personality difficulties and whether these psychological constructs demonstrated short-term stability. It also sought to gather information on participants' beliefs about the factors contributing to the development of their difficulties. Findings from the attachment measure and qualitative interview suggest that attachment and early experiences are likely to play a significant role in the development of cluster C psychopathology and distress. The development of attachment and reflective function during early life are likely to influence the way that individuals' view themselves, others and the world and therefore it is likely that they contribute to the development of cluster C psychopathology.

Limitations

The current study has a number of limitations. Firstly, the sample was small and underpowered and therefore it is difficult to generalise the results. Despite clinicians identifying a large number of potential participants, only a small proportion opted into the study. The use of the opt-in system contributed to recruitment difficulties. The use of a non-cluster B sample opposed to a pure Cluster C sample was necessary in order to identify participants, however it is likely that this may have increased heterogeneity within the sample. Participants were receiving routine treatment, which varied significantly with some only receiving minimal psychiatric review and others receiving additional psychosocial treatments. The additional demographic information obtained from psychiatric notes was valuable however this information was dependent on the quality of the information documented. Participants taking part in this study were those accessing services and participation was voluntary therefore

it is not possible to generalize this to the wider group as results may have varied for those unable or unwilling to take part in the study. The researcher also identified that many of the participants appeared anxious, particularly at first appointment therefore it may be important in future studies to find ways to introduce the researcher through familiar clinicians to promote engagement and reduce anxiety however this would present some ethical concerns.

There were also high rates of cancelled and unattended appointments within the study, which may have been attributed to increased anxiety about meeting someone new or individual's expectations of the research. Given current pressures on services, if this is mirrored in clinical practice it is likely that individuals may be discharged before they have an opportunity to engage with services, it may take additional time and efforts to engage individuals effectively and cancelled or not attended appointments are likely to be costly to services and frustrating for clinicians.

There are a number of concerns relating to the measures used in this study. While the PDQ-4 is considered an appropriate measure for screening of PDs it may result in over diagnosis and is not considered a substitute for a structured interview assessment (Hyler et al., 1990). It is important to note that 5 of the PDQ-4 questionnaires completed, scored threshold on the either the too good or suspect questions with one meeting threshold on both too good and suspect scores. Only one participant scored threshold on both time points for suspect questions. The majority of threshold scores for suspect questions were those who responded 'yes' to 'a

nuclear war may not be such a bad thing'. Threshold scores on the 'too good' or 'suspect' scores suggest either under reporting and inaccurate responses on the questionnaire. This may be the case or it could be that this represents part of a negative and depressive worldview. Information obtained from clinical notes was used to complete the SCID-II with the hope that this would make diagnosis more robust however clinical notes did not always have sufficient information to confirm diagnosis. Measures were scored solely by the primary researcher, which may have led to biases. In addition, with regard to analyses, the substantial number of analyses in an underpowered sample also increases the likelihood of Type II errors.

Implications for Future Research

In recent years there has been skepticism about the use of personality disorder categories and increasing recognition that it fails to adequately address the complexity of personality psychopathology. This study highlights that participants identified by clinicians as primarily meeting criteria for Cluster C PDs also met criteria for a number of co-occurring PD diagnoses. The current classification system also fails to acknowledge the impact of social factors and social context such as deprivation, poverty and marginalization and fails to address fully what factors are likely to lead to the development of these types of difficulties.

Without greater knowledge of the processes that have lead to the development of the problem it is difficult to hypothesis which areas to prioritise and focus on in treatment. Future studies will need to achieve adequate sample sizes in order to

generalise results. It is important that future studies select treatments based on theoretical understanding. It is likely that similar psychological factors such as attachment are implicated in the development of different personality disorder diagnoses but may have led to different coping styles. For instance both BPD and AVPD have problems regulating their emotions however those with BPD may exhibit high expressed emotions while those with AVPD are emotionally inhibited therefore treatments are likely to require both shared components but also need to be tailored to address specific issues.

Researchers have highlighted the need for uniformity of outcome measures across studies (Duggan et al., 2007; Perry, Banon & Ianni, 1999). Duggan et al. (2007) reported a need for greater uniformity of outcome measures across studies. It may be beneficial for research studies to agree and utilise standard outcome measures with the option to include additional measures where necessary. Simon (2009) highlighted the limitation of using solely self-report measures of social behaviours. This is problematic as clients tend to augment or deny behaviours. Perhaps future research may benefit from using both self-report and observer reported measures (Disney, 2013). Studies often fail to assess PDs other than those they are targeting (Simon, 2009). Given the high rates of co-occurrence between PDs it is crucial that this is adequately addressed in order to covey the complexity of personality psychopathology.

Consistent with previous findings (Simon, 2009) there is need for greater insight into

psychological factors involved in personality disorders, particularly in those which have been neglected by research such as cluster C PDs. Given the success of BPD research this should be replicated for other PDs. Equally it is necessary for PD research to begin to fully address the complexity of personality psychopathology and potentially to begin to move away from the traditional categorical understanding of PDs. Greater insight into the psychological factors involved in the development of personality disorders will help to develop theoretically driven, evidence based treatments for a range of personality difficulties.

There is increasing recognition that participants should be involved in the development of research studies, increasing collaboration and participation. Clients should gain a greater role in the way both research and services are developed and conducted in order to adequately meet their needs. Participants in this study demonstrated attachment insecurity and problems with mentalisation, supporting the need for treatment trials to investigate whether treatments, such as mentalisation-based therapy designed to address these difficulties and already effective in treating BPD (Bateman & Fonagy, 2009) may also be appropriate for clients experiencing other personality difficulties.

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APPENDICES

Appendix A: Clinical Psychology Review Author Guidelines

CLINICAL PSYCHOLOGY REVIEW

TABLE OF CONTENTS

DESCRIPTION

AUTHOR INFORMATION PACK

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AUTHOR INFORMATION PACK 13 Apr 2015
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Acknowledgements

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AUTHOR INFORMATION PACK 13 Apr 2015
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Appendix B: Brief Personality Disorder Descriptions (DSM-IV; American Psychological Association, 2000)

Cluster A (odd disorders)

- Paranoid personality disorder: characterized by a pattern of irrational suspicions and mistrust of others, interpreting others' motivations as malevolent.
- Schizoid personality disorder: a lack of interest in forming and maintaining social relationships, apathy, and inhibited expression of emotions.
- Schizotypal personality disorder: a pattern of extreme discomfort interacting socially alongside distorted and unusual thoughts and perceptions.

Cluster B (dramatic, emotional or erratic disorders)

- Antisocial personality disorder: a pervasive pattern of disregard for and violation of the rights of others, lack of empathy, inflated self-image, manipulative and impulsive behaviours.
- Borderline personality disorder: pervasive pattern of instability in relationships, self-image, identity, behavior and affects often leading to self-harm and impulsivity.
- Histrionic personality disorder: pervasive pattern of attention-seeking behaviour and excessive expression of emotions.
- Narcissistic personality disorder: a pattern of grandiosity, need for admiration, and a lack of empathy.

Cluster C (anxious or fearful disorders)

- Avoidant personality disorder: pervasive feelings of social inhibition and inadequacy, extreme sensitivity to negative evaluation.
- Dependent personality disorder: pervasive psychological need to be cared for by other people.
- Obsessive-compulsive personality disorder: rigid conformity to rules, perfectionism, and control to the point of exclusion of leisure activities and friendships.

Appendix C: Detailed information on search terms used within each database

Journals and databases to search:

Ovid MEDLINE, CINAHL , EMBASE, PsychINFO, Google scholar, Specific journals- Journal of personality disorders

Papers in English

1980-present (DSM-III first introduced 1980)

Search terms for different databases (H- heading, kw – key word); all searches limited to English, adults (18-65), 1980-present											
Cluster C Personality disorder				Psychological Treatments				Effectiveness/Treatment Outcome			
Medline	CINAHL	EMBASE	PsychINFO	Medline	CINAHL	EMBASE	PsychINFO	Medline	CINAHL	EMBASE	PsychINFO
Cluster C personality disorder (kw) Dependent personality disorder (H & kw) Avoidant personality disorder (kw) Compulsive personality disorder (H & kw) Obsessive compulsive personality disorder (kw) Anankastic personality disorder (kw)	Cluster C personality disorder (kw) Dependent personality disorder (H & kw) Avoidant personality disorder (H & kw) Compulsive personality disorder (H & kw) Obsessive compulsive personality disorder (kw) Anankastic personality disorder (kw)	Cluster C personality disorder (kw) Dependent personality disorder (H & kw) Avoidant personality disorder (H & kw) Compulsive personality disorder (H & kw) Obsessive compulsive personality disorder (kw) Anankastic personality disorder (kw)	Cluster C personality disorder (kw) Dependent personality disorder (H & kw) Avoidant personality disorder (H & kw) Obsessive compulsive personality disorder (H & kw) Anankastic personality disorder (kw)	Psychotherapy (H & kw) Cognitive therapy (H & kw) Psychodynamic psychotherapy (H & kw) Behaviour therapy (H) Multiple psychotherapy (H) Group psychotherapy (H) Brief Psychotherapy (H) Psychological intervention (kw) Psychological treatment (kw)	Psychotherapy (H & kw) Psychodynamic psychotherapy (H & kw) Brief psychotherapy (H & kw) Group Psychotherapy (H & kw) Cognitive therapy (H & kw) Psychological intervention (kw) Psychological treatment (kw)	Psychotherapy (H & kw) Psychodynamic psychotherapy (H & kw) Cognitive therapy (H & kw) Psychological intervention (kw) Psychological treatment (kw)	Humanistic Psychotherapy (H) Brief Psychotherapy (H) Experiential Psychotherapy (H) Analytical Psychotherapy (H) Individual Psychotherapy (H) Interpersonal Psychotherapy (H) Psychodynamic Psychotherapy (H) psychotherapy (kw) Group Psychotherapy (H) Integrative Psychotherapy (H) Eclectic Psychotherapy (H) Cognitive therapy (kw) Psychological intervention (kw) Psychological treatment (kw)	Treatment outcome (H & kw) Treatment efficacy (kw) Treatment effectiveness (kw)	Treatment outcome (H & kw) Treatment efficacy (kw) Treatment effectiveness (kw)	Treatment outcome (H & kw) Treatment efficacy (kw) Treatment effectiveness (kw)	Treatment outcome (H & kw) Treatment effectiveness evaluation (H & kw) Treatment efficacy (kw) Treatment effectiveness (kw)

Appendix D: Inclusion and Exclusion Criteria

Inclusion/exclusion criteria

Inclusion criteria:

Primary diagnosis/main focus:	Cluster C PD, AvPD, OCPD, DPD
	clinical population
	age: adults (18-65 years old)
	quantitative studies
	published between 1980- present
	written in English
	specified psychological treatment
	treatment outcomes measured

Exclusion criteria:

Exclude:	non-clinical/analogue studies, qualitative studies, single case studies, conference abstracts, unpublished studies, dissertations
	Diagnosis of: primary diagnosis that is not cluster C/AvPD/DPD/OCPD e.g. axis I disorder and axis II disorders e.g.depression, anxiety, social phobia, GAD, agoraphobia, eating disorders, schizophrenia, psychosis etc
	Exclude papers which cover multiple PDs or PDs other than cluster C

Appendix E: Quality Criteria/Data Extraction Form

Quality Criteria version 1 1st of December 2014

Authors:

Date:

Title:

Reviewer:

Date review completed:

	Quality criteria	Well-covered (2)	Adequately addressed (1)	Poorly addressed, not addressed , not reported and not applicable (0)	Page reported on	Information
	Title and Abstract					
1a	**Title**: identification of Cluster C PD (AVPD/DPD/OCPD) and psychological treatment and outcome					
1b	**Abstract**: structured summary of trial design, methods, results, and conclusions					
	Introduction					
2a	**Background:** Scientific background and clear rationale for review					

2 b	**Objectives**: specific objectives or hypotheses					
	Method					
3a	**Trial design (e.g. parallel or factorial):** assignment to treatment (randomised, naturalistic, other), assignment of control (randomised, naturalistic, other),					
3 b	Control: waiting list, TAU, medication, other					
3c	Blinding					
3 d	Changes to methods after commencement e.g. eligibility criteria with reasons					
	Participants					
4a	Age : adults (18 – 65 years old)					
4 b	Male/female ratio					
4c	Diagnosis specified: DSM-III, IV, IV-R. Cluster C personality disorders including; avoidant, dependent and obsessive-compulsive personality disorders. Co-morbid axis I diagnoses (anxiety, depression) number/%					

4 d	Settings and location where the data was collected					
	Interventions					
5a	Specified psychological intervention/psychotherapy e.g. CBT, DBT, psychodynamic psychotherapy, Metacognitive psychotherapy, MBT. Enough information to allow replication (how and when assessed)					
5 b	Modality specified: individual, group, both, other					
5c	Setting: inpatient, outpatient, daypatient, outpatient, mixed, other					
5 d	Number of sessions					
5e	Follow-up (incl. number of months)					
	Outcome measure					
6a	Completely defined pre-specified primary and secondary outcome measures, including how and when they were assessed					
6 b	Any changes to trial outcomes after the trial commenced, with					

	reasons					
	Sample size					
7a	How sample size was determined e.g. power calculation					
	Results and Statistical Methods					
8a	Participant flow: number of participants randomly assigned, received intended treatment, analysed for effectiveness					
8 b	Baseline demographics and characteristics of each groups					
8c	Statistical methods used to compare groups for primary and secondary outcomes					
8 d	Effect sizes e.g. pre/post comparison					
	Discussion					
9a	Limitations identified and specified					
9 b	Generalisability: validity/reliability of study					
9c	Interpretation: consistent with results, balances benefits/harm and considers results in relation to relevant evidence					

Appendix F: Quality Criteria Ratings Table

Authors (year)	1 Title		2 Introduction		3 Method				4 Participants				5 Intervention		
	A title	B Abstract	A Background	B Objectives	A trial design	B control	C Blinding	D changes	A age	B gender	C diagnosis	D location	A Psychological tx specified	B modality	C setting
Alden (1989)	2	2	2	2	2	2	0	0	2	2	2	2	2	2	2
Bamelis et al. (2014)	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2
Barber et al. (1997)	2	2	2	1	1	0	0	1	2	2	2	2	2	2	2
Bartak et al. (2010)	2	2	2	1	1	0	0	0	2	2	2	2	2	2	2
Eikenaes et al. (2006)	2	2	2	2	1	0	0	0	1	2	2	1	1	2	2
Emmelkamp et al. (2006)	2	2	1	2	2	2	0	0	2	2	2	2	2	2	2
Gude & Hoffart (2008)	2	2	2	2	1	2	0	0	1	2	2	2	2	2	2
Hellerstein et al. (1998)	0	2	2	2	2	0	0	0	2	2	2	2	2	2	2

Muran et al. (2005)	0	1	2	1	2	2	0	0	2	2	2	2	2	2	2
Ng (2005)	2	2	1	1	1	0	0	0	2	2	2	2	2	2	2
Popa et al. (2013)	2	2	0	2	0	0	0	0	1	2	2	2	2	2	2
Renneberg et al. (1990)	2	2	2	1	0	0	0	0	2	2	2	2	2	2	2
Strauss et al. (2006)	2	2	2	1	1	0	2	0	2	0	2	2	2	2	2
Stravynski et al. (1994)	2	2	2	1	2	2	0	0	2	2	2	2	2	2	2
Svartberg et al. (2004)	2	2	2	2	2	2	0	0	2	2	2	0	2	2	2
Winston et al. (1994)	2	2	1	1	2	2	0	0	2	2	2	2	2	2	2

Authors (year)	Intervention		6 Outcome measures		7 sample size	8 results				9 Discussion			Total
	D Number of sessions	E follow-up	A clear OMs	B changes	A Large sample/ power calculation	A participant flow	B baseline demographics	C statistics	D effect sizes	A limitations	B generalisability	C Interpretation	
Alden (1989)	1	2	1	0	0	1	2	2	1	2	1	2	41
Bamelis et al. (2014)	2	2	2	0	2	2	2	2	2	2	2	2	50
Barber et al. (1997)	2	0	2	0	0	0	2	2	1	2	1	2	37
Bartak et al. (2010)	2	2	1	0	1	2	1	2	2	2	2	2	41
Eikenaes et al. (2006)	2	2	2	0	0	0	2	2	1	2	0	1	34
Emmelkamp et al. (2006)	2	2	2	0	0	2	1	2	2	2	1	2	43
Gude & Hoffart (2008)	1	2	1	0	0	1	2	2	2	2	2	1	40
Hellerstein et al. (1998)	2	2	1	0	1	2	2	1	2	2	2	2	41
Muran et al. (2005)	2	2	2	0	1	2	2	2	1	2	2	2	42
Ng (2005)	2	2	2	0	0	0	1	1	0	2	0	2	33
Popa et al. (2013)	2	0	2	0	0	0	1	2	2	1	1	1	31
Renneberg et al. (1990)	1	2	1	0	0	0	1	2	1	0	0	1	30
Strauss et al. (2006)	1	0	2	0	0	0	1	2	2	2	1	2	35
Stravynski et al. (1994)	1	2	2	0	0	1	1	2	1	0	1	2	38
Svartberg et al. (2004)	2	2	2	0	1	1	2	2	2	2	2	2	44
Winston et al. (1994)	2	2	1	0	1	1	2	2	1	0	1	2	39

Appendix G: Journal of Personality Disorders: Instruction for authors

Journal of Personality Disorders

Instructions to Authors

Regular Articles: Reports of original work should not normally exceed 30 pages (typed, double-lined spaces, and with standard margins, including tables, figures, and references). Occasionally, an author may feel that he or she needs to exceed this length (e.g., a report of a series of studies, or a report that would benefit from more extensive technical detail). In these circumstances, an author may submit a lengthier manuscript, but the author should describe the rationale for a submission exceeding 30 pages in the cover letter accompanying the submission. This rationale will be taken into account by the Editors, as part of the review process, in determining if the increased length is justified.

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Brief Reports: Short descriptions of empirical studies not exceeding 20 pages in length including tables, figures, and references.

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Tables should be submitted in Excel. Tables formatted in Microsoft Word's Table function are also acceptable. (Tables should not be submitted using tabs, returns, or spaces as formatting tools.)

Figures must be submitted separately as graphic files (in order of preference: tif, eps, jpg, bmp, gif; note that PowerPoint is not acceptable) in the highest possible resolution. Figure caption text should be included in the article's Microsoft Word file. All figures must be readable in black and white.

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Sample References:

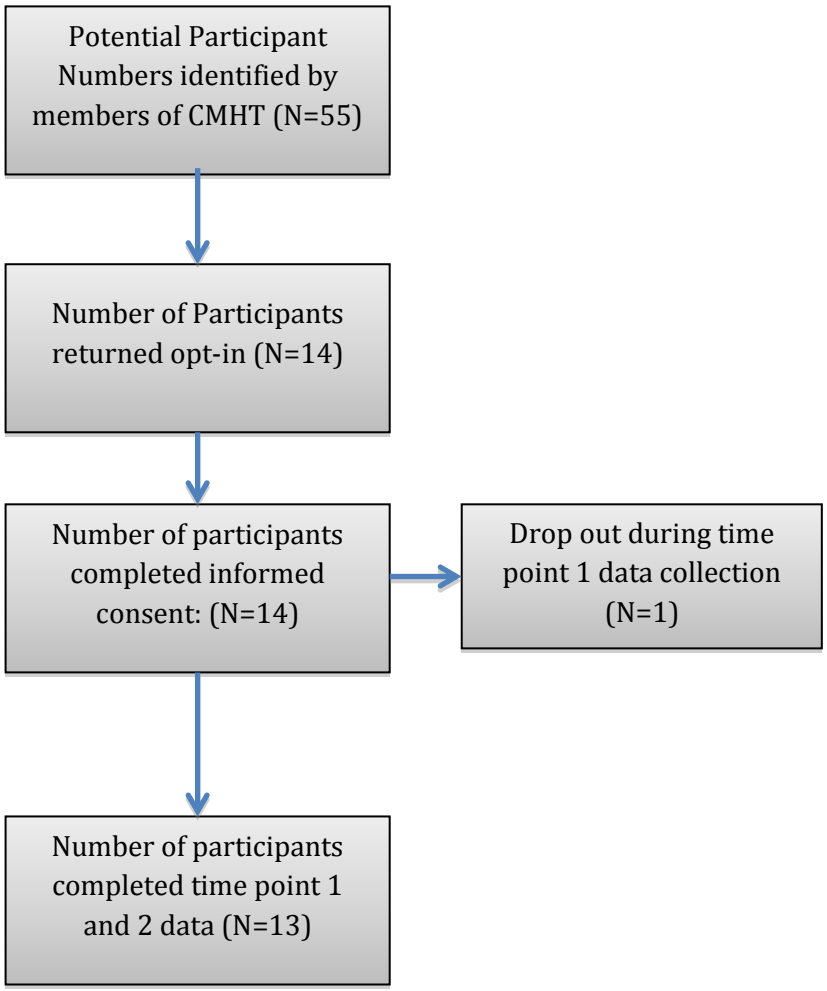
Davis, C. G., & McKearney, J. M. (2003). How do people grow from their experience with trauma or loss? *Journal of Social & Clinical Psychology*, *22*(5), 477-492.

Dweck, C., & Wortman, C. (1982). Learned helplessness, anxiety and achievement. In H. Kron & L. Laux (Eds.), *Achievement*, *stress*, *and anxiety* (pp. 93-125). Washington, DC: Hemisphere Publishing Group.

Roelofs, J., Meesters, C., Ter Huurne, M., Bamelis, L., & Muris, P. (2006). On the links between attachment style, parental rearing behaviors, and internalizing and externalizing problems in nonclinical children. *Journal of Child and Family Studies*, *15*, 331-344.

Appendix H: Participant flow chart

Fig. 2: Recruitment flow chart



Appendix I: Medications prescribed for participants and documented in psychiatric notes

Table. 3: Medication

Medication	Number of times prescribed	Number of participants prescribed
SSRI (fluoxetine, citalopram, ecitalopram, paroxetine, sertraline)	20	11
SNRI (venlafaxine, duloxetine)	7	7
Tricyclic antidepressant (clomipramine, amitriptyline, lofepramine, dosulepin)	5	4
NaSSA (mirtazapine)	8	8
Tetracyclic antidepressants (trazadone)	4	4
Atypical antipsychotic (amisulpride, risperidone, quetiapine, aripiprazole, olanzapine)	5	3
Benzodiazepines (diazepam, temazepam)	8	5
Non-benzodiazepine hypnotic (zoplicone)	5	5
Anticonvulsant (pregabalin)	1	1
Anxiolytic psychotropic (buspirone)	1	1
Piperidine typical antipsychotic (thioridazine)	1	1
Lithium	1	1
Sympatholytic nonselective beta blocker (propranolol)	1	1
Anticonvulsant/mood stabilizer (sodium valproate)	1	1

Appendix J: K-S tests of Normality

Table 5. Measures of normality K-S

Measure	Time point	Mean	SD	DF	K-S test statistic	Significance *p*-value	Skewness	Kurtosis
PDQ-4 total score	1	44.2	8.2	13	.108	.200	-.309	-.384
PDQ-4 total score	2	43.6	9.2	13	.200	.163	-1.609	3.710
IIP-32 domineering/	1	0.9	1.4	13	.363	.000	1.279	.484
Controlling								
IIP-32	1	5.8	5.2	13	.176	.200	.240	-1.446
Vindictive/self centred								
IIP-32 cold/distant	1	7.2	4.6	13	.177	.200	.285	-.633
IIP-32 social inhibition	1	12.3	4.5	13	.206	.136	-1.823	4.148
IIP-32 nonassertive	1	10.7	5.7	13	.207	.132	-.822	-.340
IIP-32 overly accommodating	1	11.3	4.9	13	.325	.001	-1.373	1.089

IIP-32 self-sacrificing	1	10.1	5	13	.266	.012	-1.073	.603
IIP-32 intrusive/needy	1	4.3	2.9	13	.206	.136	-.170	-1.396
IIP-32 Distancing	1	26.2	10.5	13	.136	.940	.183	-1.205
IIP-32 Affiliating	1	36.5	13.9	13	.199	.834	-1.707	3.239
IIP-32 domineering/ Controlling	2	1.4	2.4	13	.322	.000	2.174	4.373
IIP-32 Vindictive/self centred	2	5.3	5.2	13	.221	.839	.309	-1.717
IIP-32 cold/distant	2	7.1	4.1	13	.158	.200	.476	.930
IIP-32 social inhibition	2	14.5	2.2	13	.360	.000	-1.192	-.165
IIP-32 nonassertive	2	12	4.3	13	.219	.089	-2.015	5.057
IIP-32 overly accommodating	2	11.4	2.9	13	.164	.200	-1.176	2.456
IIP-32 self-sacrificing	2	11.1	2.9	13	.182	.200	-.865	.073

IIP-32 intrusive/needy	2	3.9	3	13	.216	.098	-.216	-1.734
IIP-32 Distancing	2	28.3	10.5	13	.130	.200	.080	-1.343
IIP-32 Affiliating	2	38.4	9.3	13	.238	.042	-.2411	6.668
DASS depression	1	26	13.2	13	.180	.200	-.067	-1.524
DASS anxiety	1	22	11.8	13	.190	.200	.275	-1.379
DASS stress	1	27.2	11.2	13	.191	.200	-.364	-1.217
DASS depression	2	28.7	10.7	13	.182	.200	-.250	-.610
DASS anxiety	2	23.8	10.4	13	.129	.200	-.205	-.879
DASS stress	2	27.9	6.0	13	.197	.176	-.733	.466
CRF count	1	623.2	491.5	13	.194	.193	.621	-1.074
CRF high	1	353.5	281.3	13	.162	.200	.651	-.874
CRF low	1	269.8	213.6	13	.177	.200	.625	-1.197
CRF count	2	486	485.9	13	.266	.068	1.449	1.317
CRF high	2	270.1	278.9	13	.212	.112	1.519	1.705
CRF low	2	215.9	208.4	13	.244	.034	1.388	1.049

Appendix K: Table of changes to personality disorder diagnoses on PDQ-4 at time point 1 and time point 2 and attachment status changes

Participant	Time point	paranoid	Schizoid	schizotypal	borderline	avoidant	dependent	obsessive compulsive	negativistic	depressive	Total number of PD diagnoses	adult attachment style
1	Time point 1										1	Preoccupied
	Time point 2										4	Preoccupied
3	Time point 1										3	unresolved
	Time point 2										6	Preoccupied
4	Time point 1										7	unresolved
	Time point 2										5	unresolved
5	Time point 1										5	Preoccupied
	Time point 2										6	secure
6	Time point 1										7	secure

	Time point 2										8	Preoccupied
7	Time point 1										5	unresolved
	Time point 2										7	unresolved
8	Time point 1										5	Preoccupied
	Time point 2										5	Preoccupied
9	Time point 1										8	unresolved
	Time point 2										7	Preoccupied
10	Time point 1										6	unresolved
	Time point 2										8	unresolved
11	Time point 1										9	unresolved
	Time point										7	unresolved

	2											
12	Time point 1										5	unresolved
	Time point 2										4	Preoccupied
13	Time point 1										3	dismissing
	Time point 2										1	secure
14	Time point 1										7	unresolved
	Time point 2										7	unresolved
		17	19	14	15	26	8	17	8	22		

Appendix L: Semi-Structured Qualitative Interview

Semi-structured interview on participant's experience of their difficulties and treatment

(interviews would be recorded and transcribed - already on consent form for other interviews)

Development and impact of difficulties

1. When do you feel your difficulties first developed?

- What experiences do you think contributed to the development of these difficulties?

- What impact have these difficulties had on your life?

2. How do you manage difficult emotions?

- Who do you talk to about your difficulties?

- How do you manage stressful situations?

- How do you manage disagreements with other people?

3. How have your difficulties affected you relationships with other people?

- What has your experience been of seeking support from friends and family?

- What has been you experience of seeking support from professionals?

4. How did you initially seek support? How did you initially get referred to the service? What was your experience of this e.g. going to GP about difficulties?

- How would you describe your experience of treatment within the Community Mental Health Team?

5. If any, what changes have you noticed in relation to your difficulties since we last met?

- Could relate to personal/social circumstances, difficulties, treatment?

6. How do you see yourself in the future?

Appendix M: Ethical Approval and Amendment Approval

NRES Committees - North of Scotland
Summerfield House
2 Eday Road
Aberdeen
AB15 6RE

Telephone: 01224 558458
Facsimile: 01224 558609
Email: nosres@nhs.net

21 March 2014

Miss Vicky Honeyman
Trainee Clinical Psychologist
NHS Grampian
Department of Clinical and Counselling Psychology
Pluscarden Clinic
Dr Gray's Hospital
ELGIN
IV30 1SN

Dear Miss Honeyman

Study title: **A case series exploring the relationship between attachment, reflective function and autobiographical memories in adults with personality difficulties experiencing distress.**
REC reference: **14/NS/0022**
IRAS project ID: **139759**

Thank you for your email of 21 March 2014, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Alternate Vice-Chair.

We plan to publish your research summary wording for the above study on the HRA website, together with your contact details, unless you expressly withhold permission to do so. Publication will be no earlier than three months from the date of this favourable opinion letter. Should you wish to provide a substitute contact point, require further information, or wish to withhold permission to publish, please contact the REC Manager Mrs Carol Irvine, carolirvine@nhs.net.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Ethical review of research sites

NHS sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at http://www.rdforum.nhs.uk.

Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

Registration of Clinical Trials

All clinical trials (defined as the first four categories on the IRAS filter page) must be registered on a publically accessible database within 6 weeks of recruitment of the first participant (for medical device studies, within the timeline determined by the current registration and publication trees).

There is no requirement to separately notify the REC but you should do so at the earliest opportunity e.g when submitting an amendment. We will audit the registration details as part of the annual progress reporting process.

To ensure transparency in research, we strongly recommend that all research is registered but for non clinical trials this is not currently mandatory.

If a sponsor wishes to contest the need for registration they should contact Catherine Blewett (catherineblewett@nhs.net), the HRA does not, however, expect exceptions to be made. Guidance on where to register is provided within IRAS.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	*Version*	*Date*
Covering Letter		23 January 2014
Covering Letter		23 February 2014
Covering Email		21 March 2014

Document	*Version*	*Date*
Investigator CV: Victoria Honeyman		23 January 2014
Letter from Statistician		21 March 2014
Letter of invitation to participant	1.0	22 October 2013
Supervisor's CV: Matthias Schwannauer		23 January 2014
Supervisor's CV: Angus MacBeth		24 January 2014
Email		16 March 2014
Caldicott Approval		12 March 2014
Recruitment Flyer	1	23 February 2014
GP Letter	2	20 February 2014
Participant Consent Form	2	12 November 2013
Participant Information Sheet	3	20 February 2014
Protocol	2	28 November 2013
Questionnaire: PDQ-4 - Personality Questionnaire		27 January 2014*
Questionnaire: IIP-32 Question/Scoring Sheet		27 January 2014*
Questionnaire: Adult Attachment Interview - 6 Demand Questions for Reflective Function		27 January 2014*
Questionnaire: DASS		27 January 2014*
Questionnaire: Autobiographical Memory Test		27 January 2014*
Questionnaire: Adult Attachment Projective Picture System		27 January 2014*
Questionnaire: Demographic Questionnaire	1	20 February 2014
REC application	139759/555 509/1/77	30 January 2014
Referees or other scientific critique report		27 January 2014*
Response to Request for Further Information		17 March 2014
Response to Request for Further Information		21 March 2014

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Reporting requirements

The attached document *"After ethical review – guidance for researchers"* gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

Feedback

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

Further information is available at National Research Ethics Service website > After Review

14/NS/0022	**Please quote this number on all correspondence**

We are pleased to welcome researchers and R & D staff at our NRES committee members' training days – see details at http://www.hra.nhs.uk/hra-training/

With the Committee's best wishes for the success of this project.

Yours sincerely

Craig Irvine

pp'd on behalf of
Dr Alex Johnstone
Chair

Enclosures: "After ethical review – guidance for researchers" SL-AR2

Copy to: Charlotte Clarke, University of Edinburgh
NHSG R&D Department

NRES Committees – North of Scotland
Summerfield House
2 Eday Road
Aberdeen
AB15 6RE

Telephone: 01224 558474
Facsimile: 01224 558809
Email: nosres@nhs.net

16 October 2014

Miss Vicky Honeyman
Trainee Clinical Psychologist
NHS Grampian
Department of Clinical and Counselling Psychology
Pluscarden Clinic, Dr Gray's Hospital
Elgin, Moray
IV30 1SN

Dear Miss Honeyman

Study title: **A case series exploring the relationship between attachment, reflective function and autobiographical memories in adults with personality difficulties experiencing distress.**
REC reference: **14/NS/0022**
Amendment number: **AM01**
Amendment date: **09 October 2014**
IRAS project ID: **139759**

The above amendment was reviewed at the meeting of the Sub-Committee held on 10 October 2014 by the Sub-Committee in correspondence.

Ethical opinion

The members of the Sub-Committee taking part in the review gave a favourable ethical opinion of the amendment on the basis described in the notice of amendment form and supporting documentation.

Approved documents

The documents reviewed and approved at the meeting were:

Document	Version	Date
Notice of Substantial Amendment (non-CTIMP)	AM01	09 October 2014
Demographics and Semi Structured Interview Schedule	1	11 September 2014
Research protocol or project proposal	3	21 September 2014

Membership of the Committee

The members of the Sub-Committee who took part in the review are listed on the attached sheet.

R&D approval

All investigators and research collaborators in the NHS should notify the R&D office for the relevant NHS care organisation of this amendment and check whether it affects R&D approval of the research.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

We are pleased to welcome researchers and R & D staff at our NRES committee members' training days – see details at http://www.hra.nhs.uk/hra-training/

14/NS/0022: Please quote this number on all correspondence

Yours sincerely

Pp'd on behalf of
Dr Jennifer Caldwell

Enclosures: List of names and professions of members who took part in the review

Copy to: Prof. David Reid, NHS Grampian, R&D Director
Charlotte Clarke, University of Edinburgh

Appendix N: Research and Development Approval and Amendment

Research and Development

Foresterhill House Annexe
ABERDEEN
AB25 2ZB

NHS Grampian

Miss V Honeyman
NHS Grampian
Dept of Clinical and Counselling Psychology
Pluscarden Clinic
Dr Grays Hospital
Elgin
IV30 1SN

Date 26/03/2014
Project No 2014PC004

Enquiries to
Extension 53846
Direct Line 01224 553846

Email grampian.randdpermissions@nhs.net

Dear Miss Honeyman

Management Permission for Non-Commercial Research

STUDY TITLE: A case series exploring the relationship between attachment, reflective function and autobiographical memories in adults with personality difficulties experiencing distress.
PROTOCOL NO: v2 28/11/2013
REC REF: 14/NS/0022
NRS REF: N/A

Thank you very much for sending all relevant documentation. I am pleased to confirm that the project is now registered with the NHS Grampian Research & Development Office. The project now has R & D Management Permission to proceed locally. This is based on the documents received from yourself and the relevant Approvals being in place.

All research with an NHS element is subject to the Research Governance Framework for Health and Community Care (2006, 2nd edition), and as Chief or Principal Investigator you should be fully committed to your responsibilities associated with this.

It is particularly important that you inform us when the study terminates.

The R&D Office must be notified immediately and any relevant documents forwarded to us if any of the following occur:

- A change of Principal Investigator, Chief Investigator or any additional research personnel
- Premature project termination
- Any amendments – substantial or non-substantial (particularly a study extension)
- Any change to funding or any additional funding

We hope the project goes well, and if you need any help or advice relating to your R&D Management Permission, please do not hesitate to contact the office.

Yours sincerely

Susan Ridge
Non-Commercial Manager

Sponsor: University of Edinburgh

Research and Development

Foresterhill House Annexe
Foresterhill
ABERDEEN
AB25 2ZB

NHS Grampian

Miss Victoria Honeyman
NHS Grampian
Dept of Clinical and Counselling Psychology
Pluscarden Clinic
Dr Grays Hospital
Elgin
IV30 1SN

Date 27/10/2014
Our Ref 2014PC004

Enquiries to Lynn Massie
Extension 53846
Direct Line 01224 553846
Email grampian.randdpermissions@nhs.net

Dear Miss Honeyman

STUDY TITLE: A case series exploring the relationship between attachment, reflective function and autobiographical memories in adults with personality difficulties experiencing distress.
PROTOCOL NO: v3 21.9.14
REC REF: 14/NS/0022
AMENDMENT: AM01 DATED 9.10.14

Thank you for sending a copy of the amendment to the above project relating to changes to the following documents:

- Demographics and Semi Structured Interview Schedule V 1 11.9.14
- Protocol V3 21.9.14

This letter is confirmation that this amendment does not alter local NHS Grampian R&D management permission of the project.

Yours sincerely

Susan Ridge
Non Commercial Manager

Appendix O: Caldicott Approval

Re: Caldicott request for Vicky Honeyman Research Project

You replied on 12/03/2014 16:25.

Dijkhuizen Roelf (NHS GRAMPIAN)

Sent: 12 March 2014 16:11

To: M
Macbeth Angus (NHS GRAMPIAN)

Cc: M
m.schwannauer@ed.ac.uk; Honeyman Vicky (NHS GRAMPIAN); Cassie Lyndsay (NHS GRAMPIAN)

Dear Angus

Thank you very much for your message. It is very reassuring for me to know that the researcher is backed up by a supervisor who is in the position to discuss and provide guidance around data protection issues.

That, together with the material submitted to me relating to data flow in the study is enough for me to provide Caldicott approval.

If you need more than this email confirmation, Lyndsay, my PA will arrange that with you.

Thank you for your commitment.

Dr. Roelf Dijkhuizen
Medical Director NHS Grampian
Mobile 07876258473
GMC 3199888